BRITISH MEDICAL JOURNAL

LONDON: SATURDAY, JUNE 22nd, 1935

THE TREATMENT OF OBSTETRIC DISPROPORTION

BY

R. CHRISTIE BROWN, M.B., M.S., F.R.C.S., M.C.O.G.

OBSTETRIC SURGEON, CITY OF LONDON MATERNITY HOSPITAL; CONSULTING OBSTETRIC SURGEON, PLAISTOW MATERNITY HOSPITAL; HONORARY SURGEON TO OUT-PATIENTS, SAMARITAN FREE HOSPITAL FOR WOMEN; GYNAECOLOGICAL SURGEON, METROPOLITAN HOSPITAL

Although the treatment of obstetric disproportion has occupied an important position in obstetric discussions for many years, nevertheless at the present day it still remains a subject of controversy.

If by obstetric disproportion we imply such disproportion between a particular pelvis and a particular foetus as will render labour by the natural passages impossible, then there should be no difficulty in its treatment, as all cases should require Caesarean section. The difficulty arises, not in the treatment of disproportion, but in the recognition of its presence. On the one hand, where major disproportion exists, there will be marked contraction of the pelvis, which will be easily recognized by our ordinary methods of mensuration. On the other hand, where minor disproportion exists, measurement of the pelvis alone will be useless, since the majority of cases occur in women possessing normal pelves, and only in a small minority of cases will careful measurement show evidence of contraction of the pelvis. This latter condition also, if minor in degree, cannot be recognized easily, since measurements of the same patient taken by two observers may differ by as much as half an inch, and a single observer may record a similar difference in the measurements of the same patient when these are taken on two separate occasions.

X rays offer a very accurate means of measuring the pelvis, but this factor alone is of little value since, as already pointed out, the majority of cases of minor obstetric disproportion occur in women possessing normal pelves. Moreover, our conception of the importance of minor contraction of the pelvis has recently undergone considerable changes. It has been emphasized that the size of the pelvis, *per se*, provided that the size is within reasonable limits of the normal, is of no great importance. Where treatment has been based upon the recognition of minor contraction of the pelvis during pregnancy, and patients have been observed carefully during labour, the results have been surprising, since many women presenting a minor degree of contraction have delivered themselves spontaneously, whereas others in whom the pelvis was of normal dimensions have failed to do so.

As it is difficult to measure accurately the pelvis within small limits, and it is almost impossible, except by *x* rays, to measure the foetal head, it is only by attempting to compare the foetal head directly with the pelvis that the presumption of minor disproportion can be made. Even when a decision is arrived at in this manner it is liable to error, as many other factors other than pelvic and foetal measurements are concerned in the outcome of labour.

Where the treatment has been based upon the recognition of minor disproportion in this fashion results have not been good, as it has been pointed out that the percentage of patients treated at the present day by the induction of premature labour is greater than the percentage of patients who formerly suffered from dystocia; and also, in spite of an enormous increase in the number of patients treated by Caesarean section and by the induction of premature labour during the last twenty or thirty years, the percentage of cases of difficult labour has not diminished. Such statements suggest that a revision of our conception of the diagnosis and treatment of disproportion is necessary.

Three Groups of Patients

Following upon the bad results obtained when treatment is based solely upon the recognition of contraction of the pelvis, it has become popular with certain authorities more or less to disregard pelvic measurements; but as the recognition of gross disproportion can be made upon the findings of gross contraction of the pelvis alone it is essential that every patient should be subjected to a vaginal examination and her diagonal conjugate measured. In this way patients can be classified into the following groups:

1. Those patients in whom the conjugate vera measures $3\frac{3}{4}$ inches or more.
2. Those patients in whom the conjugate vera measures between $3\frac{1}{4}$ and $3\frac{3}{4}$ inches.
3. Those patients in whom the conjugate vera measures less than $3\frac{1}{4}$ inches.

Decisions cannot be made from a consideration of the above classification alone, but it is more or less true that patients in the first group deliver themselves by the natural passages at term, provided that the foetus is of normal size, and patients in the third group require Caesarean section. Patients in the middle group offer the greatest difficulty in forecasting the result of labour.

It is maintained in this article that from a pelvic examination alone, made in early pregnancy, the only definite decision which can be arrived at is the decision to perform Caesarean section at term, following upon the recognition of gross contraction. In addition, great reliance can be placed upon the educated hand, which will estimate on vaginal examination the general contour and the shape of the pelvis, and an impression of pelvic capacity can be gained which will be of great importance.

The Head and the Brim

Finally, in every case an attempt must be made to compare the foetal head with the pelvic brim through which it has to pass. In those cases where there is gross contraction this comparison will confirm the original decision of Caesarean section. In others, where the observer has gained an impression that the pelvis is just subnormal, he will have been on his guard to observe carefully the relative size of the head to the pelvis. If, in the latter weeks of pregnancy, the head becomes

engaged, then the case will arouse no further anxiety, as it will be passed into the group of normal patients and will be left to go into spontaneous labour at term.

On the other hand, the head may fail to engage ; this is occasionally due to the foetus being small and consequently is able to occupy the abdominal cavity without the pressure of the abdominal muscles forcing it into the pelvis. Or it may be the result of the foetus being large and unable to enter the brim.

This decision can be made by comparing the head with the brim, preferably under an anaesthetic and certainly after the administration of an enema, when, if the foetus is small, the head will be forced past the brim of the pelvis, and the muscular sheet of the lower segment alone will prevent the head from being forced down on to the pelvic floor. On the other hand, examination in this fashion may show a definite difficulty at the brim, and it may be impossible to force the head into the pelvic cavity. It is this latter group of cases which requires most careful and considered treatment.

If the patient fall into this latter class and if the observer be confronted with the question " Will labour be normal or otherwise? " his opinion must be that he does not know. In such a case, if the uterine contractions are forcible ; if the patient is a young woman of fortitude with pelvic joints which will allow of expansion ; if the foetal head is one that will mould if necessary—then, provided the head flexes at the onset of labour and acts as an efficient plug to preserve the membranes from rupture, the prognosis would no doubt be good, but not otherwise. In other words, no opinion can be accurate until all factors concerned in the progress of labour are known ; and, as these cannot be observed until after the onset of labour, I advocate that, in all cases of doubt in the primipara, the patient should be allowed to pass into spontaneous labour at term and the labour be conducted as a trial or test of labour. In this way an accurate opinion can be arrived at during the first stage of labour.

The Factors Concerned in Delivery

As the factors mentioned above have such a bearing on the outcome of labour, it is important that the observer should be able to interpret them correctly, and for this reason a more detailed description of them is given below.

The factors concerned in the delivery of a woman are:

Recognized before the onset of labour:

(1) The size of the pelvis.
(2) The size of the foetal head.
(3) The general build of the patient.
(4) The age of the patient.
(5) The mobility of the pelvic joints.

Recognized after the onset of labour:

(6) The presentation.
(7) The progress of the first stage.
(8) The force of uterine contractions.
(9) The fortitude of the patient.
(10) The moulding of the head.

As five of these ten factors are obtained only after the onset of labour, it follows that no correct decision concerning the outcome of labour in these cases can be made until labour is in progress and until all the factors can be weighed and given due consideration. It is for this reason that in this article I advocate that for all cases in the primipara in whom during pregnancy the physical signs suggest minor disproportion, the patient should be allowed to go into spontaneous labour at term and such a labour be looked upon as a test, the decision of the obstetrician being reserved until he has had the opportunity of observing the patient in labour and the foetal head acting under the force of uterine contractions. This is the only way by which the results which occur when decisions are made and treatment is adopted during pregnancy can be improved. The observer will be fully equipped with all data and his decision can nearly approach accuracy.

Before describing the conduct of such a trial or test of labour it will be necessary to discuss in detail all of the ten factors which, grouped together, are concerned with the outcome of labour.

1. The Size of the Pelvis

The reasons why a vaginal examination should always be made have already been stressed. Surely no correct decision can be made regarding the outcome of labour without taking into consideration all factors concerned with labour, and the most important of all these factors is the size of the pelvis, which must be carefully measured and duly considered along with all the other factors. It has been pointed out that vaginal examination will not only permit of the recognition of gross contraction of the pelvis, but that also a definite impression can be gained of the pelvic capacity. This impression is difficult to define. Certain points, however, are noted which can be described —for example, the measurement of the diagonal conjugate ; the height of the promontory ; the ease or difficulty with which the side walls of the pelvis can be palpated ; and the estimation of the width of the pubic arch. These observations, however, are liable to error, and, in so far as the practice of obstetrics is an art and not a science, the individual impression gained by the observer is of the greatest value. After practice the obstetrician can usually say, " This is a roomy pelvis," or " This is a pelvis which may give rise to difficulty."

2. Size of Foetal Head in Relation to Size of Pelvis

Unfortunately, at present we have no accurate means of cephalometry, as, even when x rays are employed, it is not always possible to measure the diameters required, and we are thus faced with a situation in which a head has to pass through a pelvis, neither of which we can accurately measure. As already stated, it is only by comparing directly the foetal head with the brim that anything like an accurate impression can be gained of their relative sizes.

The outlet of the pelvis does not lend itself to comparison by trial with the size of the foetal head, and therefore measurements must never be neglected. A rough estimate of the size of the pubic arch may be obtained by palpating with the balls of the thumbs. To do this the patient is placed in the dorsal position and the buttocks brought to overhang the end of the bed. The obstetrician grasps the buttocks with both hands in such a fashion that the balls of the thumbs come to lie upon the tubera ischii, with the nails pointing in line with the ischio-pubic rami. After practice an estimate, without measurement, is easily obtained of the size of the arch. Where it is considered necessary an assistant could measure the distance between the two thumbs with the callipers, and if this measurement be less than three inches then other measurements should be taken. The antero-posterior measurement is usually taken by means of callipers between the lower border of the symphysis pubis and the tip of the sacrum. This should measure five inches.

Unfortunately, when the transverse diameter of the outlet is decreased, the antero-posterior measurement does not offer much help as to prognosis, as in such cases the space between the rami is of no use, as the foetal head cannot occupy it, but is forced backward and rides upon the ischial tuberosities. For this reason a case of transverse contraction of the outlet demands an increased distance between the tip of the sacrum and a mid-point of a line drawn between the two tuberosities of the ischium (posterior sagittal diameter). To measure this diameter is difficult, and a special pelvimeter (Thom's pelvimeter) is required. It may be said, however, that where the transverse diameter of the outlet measures three inches the posterior sagittal diameter should also measure three inches before labour should be allowed to take place spontaneously.

3. General Build of the Patient

In making a general survey of the patient certain types may be recognized almost at a glance. The rickety dwarf with square brow, pigeon chest, pendulous abdomen, and deformed limbs is well known, but fortunately rare. There are also women of small stature but with no signs of rickets. Two types of individuals fall into this group. The majority are merely women of fine and delicate mould. The fineness of their limbs and features, the

narrowness of their shoulders, and the breadth of their hips place them in a category which would be named "typically feminine." Labour in such women might be difficult in the presence of a large foetus, but an extensive observation of such women has shown how frequently their labours are not only normal but easy.

The second type consists of women of stunted growth, stout in appearance, with short neck, broad shoulders, broad hips, thick, short limbs, and often presenting a masculine hair distribution. The body is not proportionate, as these patients possibly suffer from a pituitary dystrophy. The measurement from the symphysis pubis to the top of the head is often greater than the measurement from the symphysis pubis to the heels. Such women are relatively sterile, and seldom give birth to more than one or two children in the course of a lifetime. The onset of menstruation is usually late, and after that periods are very apt to be irregular and painful. The vaginal introitus is small, and vaginal examination is difficult. It is usual to find the foetus presenting by the vertex, with the occiput posteriorly. So often is this the case that the combination of a patient of this type with a foetus in the occipito-posterior position has been named the dystocia-dystrophia syndrome. Labour in these cases is prolonged and difficult; contractions at first are strong and regular, but extremely painful. The membranes rupture early, the head is engaged, but after twelve to twenty-four hours of labour the os is usually not more dilated than will admit two fingers. Spontaneous delivery is rare, and one is frequently forced to dilate the os manually and apply the forceps. The stillbirth rate and morbidity rate are high. I am under the impression that I have seen a greater number of these cases in Jewesses than in Gentiles.

Another group may be recognized—and patients falling into this group frequently surprise the observer with the difficulty of their labours, in spite of the fact that pelvic measurements and the relation of the foetal head to the brim appear to be normal. They are women of average size, but masculine in appearance, with broad shoulders, narrow hips, thick, coarse limbs, and a tendency to masculine hair distribution on the limbs, the abdomen, and the face. In such patients the outlet of the pelvis is frequently contracted.

Notice should also be taken of kyphosis, as in patients exhibiting this deformity the outlet of the pelvis is usually markedly contracted, and, even although the head may be engaged at the brim, it may nevertheless fail to pass through the outlet. Contraction of the outlet occurs particularly in patients suffering from a lower lumbar kyphosis.

Scoliosis does not usually give rise to much contraction of the pelvis, although in such cases one side of the pelvis may be larger than the other, and the outcome of labour may be more favourable in those cases where the foetus presents in such a position that the occiput occupies the larger side of the pelvis.

4 & 5. Age and the Mobility of the Pelvic Joints

In the consideration of age it is a matter of common knowledge that a young girl can deliver herself quickly and easily in cases which, from the impression of the presence of disproportion alone, would suggest difficulty. This is due to the amount of movement permitted at the sacro-iliac joints and at the symphysis pubis. With advancing years these joints become fixed, and will neither allow of rotation nor of separation. Where movement is obtained the sacro-iliac joints and the symphysis yield to strain and permit a slight separation to take place. This is well portrayed in the rabbit, in which animal the multiparous doe presents a gap of 1/4 inch or more between the pubic bones. In addition to this, the sacro-iliac joints allow the sacrum to rock between the innominate bones in such a fashion that the promontory moves backwards and the tip of the sacrum forwards during the passage of the head through the inlet. The reverse takes place during the passage of the head through the outlet. Slight increase in the capacity of the outlet also results from backward movement of the coccyx.

Age must also be taken into consideration when dealing with the elderly primipara, as a minor degree of disproportion, which in a young woman would suggest the conduct of a trial of labour, in a more elderly woman would be better treated by the performance of a Caesarean section, before the onset of labour, or, if this is not considered justifiable, obstetric old age, considered with other factors during a trial of labour, should act as a finger-post pointing towards Caesarean section.

The amount of movement these joints are likely to permit can be roughly estimated in the following manner: the patient is made to stand and the symphysis pubis is grasped between the index finger inserted into the vagina and the thumb externally. The patient is then instructed to stand first on the right leg and then on the left leg, when, if movement takes place, the two pubic bones will be felt to rock, the one on the other.

6. The Presentation

The liability of malpresentation is slightly increased in cases of disproportion, or, on the other hand, the disproportion may be due to a malpresentation—that is, the disproportion may be true or relative to an abnormal presentation or to deflexion of the head, as is so often seen when the vertex presents with the occiput posteriorly. Some of the most difficult cases of this group of patients result from an occipito-posterior position, and these should always be considered seriously. The presentation exhibited during pregnancy is not necessarily the presentation during labour. Many cases presenting by the vertex with the occiput posteriorly alter during labour to a brow or a face. This change of the presentation during labour may give rise to serious dystocia and rupture of the uterus in a case which, during pregnancy, might have suggested a normal delivery. As an extreme instance of this alteration during labour, I have seen a case which presented by the breech during the onset of labour (*x*-ray proof), but nevertheless the patient delivered herself several hours later with the foetus presenting by the vertex.

7. The Progress of the First Stage

In patients in whom there may be obstetric disproportion the progress of the first stage of labour may be altered from the normal. In the conduct of a trial of labour it is by observation of the progress of the first stage of labour that the final decision as to treatment is ultimately arrived at. It is therefore imperative that, in order to appreciate any abnormality of the first stage, the normal first stage be reviewed.

During the first stage of labour two anatomical changes are occurring: (1) dilatation of the os; (2) withdrawal of the cervix. The dilatation of the os is purely mechanical, and results from the fact that the membranes are driven, first, through the internal os, next through the cervical canal, and, finally, through the external os.

In normal circumstances the membranes are preserved from rupture because the head plugs the lower uterine segment and protects them from increased tension, which occurs at the height of a uterine contraction. During the first stage of normal labour the body of the foetus is not directly compressed by the contracting uterus. Contractions of the uterus increase the pressure of the liquor amnii within the amniotic sac, and the unsupported part of the membranes—namely, that part above the internal os—will therefore bulge into the cervical canal during a contraction and act as a dilating wedge upon the canal. If it were possible for the membranes to be intact but the foetus absent the membranes above the os would soon rupture, as they would be unable to withstand the pressure occurring at the height of a uterine contraction.

Contractions of the uterus are of insidious origin, as it is common knowledge that the observer can detect a contraction by abdominal palpation before the patient is herself aware of it. At the onset of a contraction the pressure of the liquor within the amniotic sac is gradually increased, and liquor passes downwards between the head of the foetus and the wall of the lower segment, so that the unsupported part of the membrane—namely, that part above the internal os—is driven into the cervical canal and acts as a dilating wedge upon it. In normal circumstances, however, the foetus moves with the liquor in the direction of the vagina, and its head is compressed

into the lower uterine segment. The amniotic cavity in this way is divided into two compartments, that behind and that in front of the head. When the head acts as an efficient plug these two compartments will not communicate during the latter part of a contraction, and the pressure in the one may differ from the pressure in the other.

Such a state of affairs could only exist where the head forms a round plug—that is, where it is well flexed and no disproportion prevents the head from descending into the lower segment or interferes with the lower segment applying itself to the head. A well-flexed vertex is round, and it is circular in outline at its girdle of contact, as its two diameters, the sub-occipito and bregmatic and the bi-parietal, are equal.

As the force of the contraction increases, the pressure in the liquor behind the head becomes greater than the pressure of the liquor in front of the head. This force pushes the head still further into the lower uterine segment and increases the efficiency of the plug. The pressure in the liquor in front of the head can only increase as the head descends, and finally with the complete dilatation of the os and the descent of the head to the vagina pressure is increased to such an extent that the membranes rupture.

With the cessation of a pain the head is slightly elevated once more into the amniotic cavity, only to be again plugged into the lower uterine segment with the onset of a new contraction. Acting in this way as a ball-valve, and moving downwards and upwards as the pains come and go, it preserves the membranes from rupture until the full dilatation of the os and the descent of the head through it.

During this stage of labour not only does dilatation of the os take place but the lower uterine segment is formed and the cervix is withdrawn. These latter result from the physiological action of the uterus—the upper uterine segment contracts and at the same time the non-contracting part below it (the lower uterine segment) becomes stretched to allow for the diminished capacity occurring in the upper uterine segment.

It will be clear that this stretching must take place, as the foetus cannot descend until the os is fully dilated. The portion of the lower segment which lies below the junction of the two segments and above the point where the head firmly compresses the lower segment against the wall of the pelvis is stretched during a contraction, particularly at the height of a contraction, and at the same time the cervix is withdrawn, because, as a rule, the pressure exerted by the head against the pelvic wall is not sufficient to prevent the withdrawal of the cervix; but in those cases where there is disproportion between the head and the cervix on the one hand, and the pelvis on the other hand, the cervix lying below the head cannot be withdrawn. In these latter cases, with the relaxation of the contractions the head ceases to compress the lower segment between itself and the pelvis, and the portion of the cervix lying below the head is withdrawn as a result of the elastic rebound of the stretched lower segment situated above the head.

In summing up the changes taking place during the first stage of labour I should like to emphasize the following:

1. Dilatation of the os takes place only during the early part of a contraction, as at the height of a contraction the head, by plugging the lower segment, cuts off the pressure of the liquor behind the head from the liquor in front of the head.

2. The lower segment above the head is stretched at the height of a contraction, and the cervix may be withdrawn.

3. The cervix below the head is withdrawn as the contraction ceases in those cases where the head was so tightly compressed against the pelvis as to render withdrawal impossible. This withdrawal can only take place provided that the lower segment is released from the pressure placed upon it by the foetal head—that is, provided that the head is able to move upwards in the interval between pains and release the lower segment from pressure. This can only take place when there is sufficient liquor remaining in the uterus to allow movement of the foetus upwards. It occurs ideally when the membranes are unruptured. After rupture of the membranes, however, such release of the lower segment from pressure can only take place for a short time, as, when the released liquor drains away, the time ultimately arrives when, with the complete or almost complete drainage of the liquor, there remains no further room for the foetus to move upwards. After this time the head exerts continuous pressure on the lower segment, resulting in oedema of the tissues below the point of contact and failure of these tissues to withdraw above the head.

8. The Force of Uterine Contractions

A labour which is likely to be difficult may necessitate the moulding of the foetal head to permit of its passage, but moulding can only take place provided that uterine contractions are strong and regular, and for this reason due consideration must be given in all difficult labours to the force and regularity of the uterine contractions.

9. The Fortitude of the Patient

In the conduct of a difficult labour the fortitude exhibited by the patient must be taken into consideration as one of the factors which will determine whether labour is likely to end by the natural passages, since the successful conduct of these labours demands from the patient a degree of intelligent co-operation, courage, and perseverance which is not called for to such an extent in the conduct of a normal straightforward labour.

10. The Moulding of the Head

This does not take place during the first stage of labour before the rupture of the membranes. After the rupture of the membranes, however, with the onset of continuous pressure upon the foetal skull, moulding will occur provided that uterine contractions are normal. In normal circumstances, where the membranes rupture with full dilatation of the os, no moulding takes place, since so soon as the cervical sheet has been withdrawn above the head, the head passes directly into the pelvic cavity, and a few good pains serve to drive it downwards. Where there is disproportion, however, moulding may occur either, as stated, during the first stage of labour after rupture of the membranes, or after the full dilatation of the os as it passes through the cavity of the pelvis. Moulding is not always easily recognized, as in a number of cases it is obscured by the presence of a caput. The presence of a caput, however, indicates moulding beneath it, since it would be difficult for oedema occurring under the galea aponeurotica to distend the scalp were the skull underneath it not collapsed in direct proportion.

A Trial of Labour

As previously mentioned, cases of gross disproportion are recognized by the presence of contraction of the pelvis alone, and Caesarean section is decided upon. In the presence of minor disproportion, however, it is advocated that the patient be allowed to pass into spontaneous labour at term, and that the labour be conducted as a trial of labour.

An accurate decision as to the outcome can usually be made within the first twelve hours of labour, and during this time the progress of labour should be estimated by abdominal palpation and rectal examination only. With premature rupture of the membranes, however, a vaginal examination should be performed, preferably under an anaesthetic, and the surgeon should be prepared, if thought necessary as a result of his examination, to proceed with a Caesarean section. In these cases a lower segment Caesarean section operation is considered better than a classical operation.

During the progress of a trial of labour it must be constantly borne in mind that the relative size of the head to the pelvis is not the only factor concerned with a successful termination. The capacity of the patient to deliver herself must be considered, and it must be remembered that this capacity depends not only upon the capacity of the pelvis to permit the passage of a foetus and upon the ability of the pelvic joints to permit of movement, but also upon the force the uterine muscle is able to exert, and this in its turn is largely influenced by the patient's ability to bear pain. The position of the foetus is also noted, and the occipito-posterior position must be regarded with caution.

With the onset of labour, in the majority of cases, increasing flexion of the head will take place and a diminishing foetal diameter will engage. In some cases, however, particularly in those where the foetus presents by the vertex with the occiput situated posteriorly, the head may become increasingly extended, and an increasingly large diameter may attempt to engage.

It is fairly easy to appreciate the type of patient with whom one is dealing, and to apprehend whether she is the type of woman who is capable of passing through a long and difficult labour with fortitude. After labour has been in progress for some time, by abdominal examination it can be ascertained whether the foetal head has engaged or not, and rectal palpation will determine the size of the os and the presence of the membranes.

The presence or absence of the membranes is of vital significance, as in cases of supposed disproportion where the membranes remain unruptured and the patient is in good condition delay need not cause undue worry, as the foetus will be uninjured and will not be subjected to undue risk by prolongation of the labour, even up to two or three days. Also it can be taken as certain that the head is not extended, and that it fits the pelvis. Only on one occasion have I seen a case where the membranes remained unruptured and thinning of the lower segment took place in the course of a three-days labour, leading to threatened rupture of the uterus. In this case, however, there was not any disproportion, the os did not dilate, and the condition was due to abnormal uterine action.

In cases of disproportion giving rise to obstruction the membranes will rupture before full dilatation of the os. The presence of unruptured membranes indicates a well-flexed head and no disproportion, but the converse does not follow, as early rupture of the membranes may suggest, but does not always imply, obstruction. Where there is obstruction the head is prevented from descending into the lower uterine segment, and so the valve action is absent. The unsupported membranes have thus to withstand the full force of uterine contractions, and they consequently rupture. After the rupture of the membranes the cervix lacks a dilator, and liquor escapes. Uterine contractions are no longer useful, since the os does not dilate and the cervix is not withdrawn. Obstruction to the descent of the head is increased as the cervical sleeve lying below the head becomes oedematous as a result of the continuous pressure applied upon the lower uterine segment between the head and the brim.

This oedema of the cervix is accompanied by the development of a caput succedaneum and moulding of the head, and these two processes together permit of the oedematous scalp applying itself to the oedematous cervix in the formation of a new dilator. Following upon this new distension of the os, contractions increase and the first stage may proceed, and in some cases, if left alone, after a prolonged and difficult labour the uterus may succeed in withdrawing this cervical sheet above the head, and thus allow the naked head to apply itself to the pelvis, after which the second stage will proceed normally.

Frequently, however, dilatation alone takes place, and the uterus fails to withdraw the oedematous cervix above the head. In some cases the cervix splits, and the extra room made by this allows the head to pass into the pelvis. In rare cases the cervix has been known to slough off in front of the head, which has descended into the vagina with the cervix in front of it. In other cases, however, retraction may proceed and rupture of the uterus may ensue.

It will be understood from the foregoing that it is essential that a vaginal examination should be made immediately upon rupture of the membranes. In some instances the os will be found to be fully dilated and the cervix withdrawn, and the head will then descend into the pelvis in the course of the next few pains. On the other hand, the os may be only partially dilated, but the head may have descended and may be applying itself to the lower segment, which will be felt stretched over the head. The lips of the cervix will not be oedematous, but will be felt to be of normal thickness both anteriorly and posteriorly. Here the head has descended and is distending the os, and is itself acting as a dilator. Such cases, especially in the presence of normal uterine contractions and normal fortitude, should be left alone, and spontaneous delivery or delivery by the application of the forceps may be anticipated. Where fortitude is bad, however, and pains are feeble, Caesarean section should be considered if the os is not more than two-shillings dilated, and especially if the patient is elderly.

In other cases a partially dilated cervix will be found to be hanging loosely in the vagina unfilled by the head, which is high, and which does not descend during a contraction. The unsupported area of the head may have developed a caput or may exhibit moulding. On abdominal examination in such cases the bladder may appear to be prominent, but on the passage of a catheter only a few ounces of urine are withdrawn. This prominence of the bladder is due not to overdistension, but to the fact that it is elevated with the lower uterine segment. The height of the bladder may be looked upon as a good indication of the height of Bandl's ring. Such cases usually require Caesarean section, even in the presence of good contractions and good fortitude, whereas in the presence of inertia Caesarean section is the only possible means of delivering a live child.

Termination of Labour

Where a trial of labour has been conducted the labour may terminate in one of three ways:

1. By normal delivery—that is, spontaneous delivery or delivery by the application of the forceps to the head which is low.
2. By Caesarean section.
3. By delivery of a foetus, intact but dead, by means of the forceps.

Special emphasis is laid on the fact that the foetus in this latter group is delivered intact—that is, not by means of craniotomy. Should it be necessary to perform an operation of craniotomy it is obvious that the observer has committed an error of judgement during the trial of labour, as such a case should have been terminated by Caesarean section. Nevertheless, even where a trial of labour is conducted with all care and skill, in a small percentage of cases it is necessary to apply the forceps to the head which is high, and the labour may end with the delivery of a dead foetus.

Taking these results into consideration the practice of a trial of labour in primiparae may be used as a method of classifying not the pelves but the patients themselves into three groups:

(*a*) Patients in Group 1 above could be safely left to deliver themselves in future.

(*b*) Patients in Group 2 will always require Caesarean section.

(*c*) Patients in Group 3 should be delivered by the induction of premature labour on future occasions.

Summary

1. Cases of gross disproportion can be recognized solely by the recognition of gross contraction of the pelvis.

2. The outcome of labour, in cases where minor disproportion is thought to be present, is uncertain, and a decision can be made only after labour is in progress.

3. Pelvic measurements are not unimportant, but must be considered in conjunction with all other factors before a prognosis can be arrived at.

4. A vaginal examination should be made in every case during pregnancy.

5. Induction of premature labour for disproportion has no place in the delivery of a primipara. Induction of premature labour is a useful method in the delivery of a multipara where a record of the history of former labour has been carefully kept and can be used as a guide as to the capacity of the patient to deliver herself.

6. A trial of labour will estimate the patient's capacity for delivery, and no amount of skill can enable an observer to decide upon this capacity during pregnancy.

7. Where induction of premature labour is practised in the case of the primipara it may be done unnecessarily, and there is little to prevent the obstetrician repeating this error in the treatment of future pregnancies.

SURVEY OF THE PHYSICAL CONDITION OF CHILDREN BETWEEN THE AGES OF THREE AND FIVE YEARS IN CARDIFF AND RHONDDA SCHOOLS

WITH SPECIAL REFERENCE TO THE FACTOR OF MALNUTRITION

BY

A. G. WATKINS, B.Sc., M.D., M.R.C.P.

PHYSICIAN IN CHILDREN'S DISEASES, CARDIFF ROYAL INFIRMARY; PHYSICIAN IN CHILDREN'S DISEASES, LLANDOUGH HOSPITAL; LECTURER IN CHILDREN'S DISEASES, WELSH NATIONAL SCHOOL OF MEDICINE

This investigation was an attempt to examine school children in the Cardiff and Rhondda areas, under 5 years of age, with the idea of gauging their physical condition and of determining what effects (if any) malnutrition and life in a "distressed area" may have upon their health.

As no inquiry of this nature had been made in these areas it was felt that an investigation following the lines of that done by Spence[1] in the Newcastle-on-Tyne area would be of value. Spence examined two main groups of children between 1 and 5 years old, and termed them the "city children" and the "professional families class," using the latter as a control group. In the present inquiry groups have been taken from elementary schools in two different areas. The need for a control group was urgently felt, but in spite of every effort it was not found possible to secure for examination an adequate number of children between the ages of 3 and 5 years in Cardiff living under good conditions in the residential part of the city. The difficulty of obtaining such a control group is stressed, because I feel that with it the results would have been correspondingly more valuable.

It has, however, been possible to contrast the findings in Cardiff and the Rhondda. The two areas differ socially and geographically. Cardiff, in the main, is a cosmopolitan city with a varied industrial life, while the Rhondda is mainly confined to the coal industry, and because of its high unemployment rate comes under the official designation of a "distressed area." Geographically Cardiff is flat and enervating; the Rhondda is hilly, and above the level of the houses is open hillside with bracing air.

In Spence's inquiry the age group examined was 1 to 5 years, but in the present investigation the age group 3 to 5 years has been chosen for the following five reasons. (1) Convenience and accessibility for examination was a guiding factor. The schools were visited in conjunction with the school medical inspection for new entrants; no selection other than age was made of the children or of the school. (2) This age group is not under direct medical supervision—that is, the children no longer attend welfare clinics, and are not yet under the school medical service; most of them had not been seen prior to the time of examination. They correspond, therefore, to children who have just left the pre-school category. (3) The children being "new entrants," the effect of school milk and general school routine was at a minimum. (4) The nutritional diseases of infancy were no longer active, and such conditions as juvenile rheumatism had not become evident. (5) The fact that the children were attending school excluded those with active disease.

Scope of Survey

The main points of investigation were as follows. (*a*) History of past illnesses. This was obtained by questioning the parent in every case. (*b*) Family history. (*c*) General physical examination, including mouth, nasopharynx, heart, lungs, abdomen, skeleton, and skin. (*d*) Height and weight of each child. The last two measurements were taken by either the school medical officer or the school nurse, the height being recorded to the nearest half-inch, and the weight to the nearest half-pound. The children were weighed without shoes, in socks and underclothing only. (*e*) Assessment of general physical condition. This was considered to be the most essential part of the investigation, and the following grouping was used—namely, "good," "fair," and "poor." Those classed as "good" would include the "excellent" and "normal" of the Board of Education memorandum,[2] the "fair" corresponding to the "slightly subnormal," and the "poor" to the "bad." It was not considered desirable, or indeed possible, to group the children more accurately than this. The grouping was done without knowledge of the height and weight of the child, and was made on general clinical grounds. The main points noted were muscle tone, posture, amount of subcutaneous fat, anaemia, and mental alertness. Haemoglobin estimations or other tests were not used. (*f*) With the help of the sanitary inspectors each child's home was visited and inquiries made as to employment or otherwise of the parents, the total weekly income received from all sources, and the outgoings in rent and rates. Each house was inspected for overcrowding and vermin.

Evidence of "Malnutrition"

It will be noted that each child was examined for its general physical condition irrespective of any cause. The term "malnutrition" implies wrong feeding, and not of necessity underfeeding, as it has popularly come to mean. A lowered physical condition may be due to (*a*) underfeeding, (*b*) incorrect feeding, (*c*) unsuitable environment, (*d*) illness, (*e*) inability to assimilate food due to physical disorder, and (*f*) a mixture of causes. The first three of these may be termed *exogenous* causes, while (*d*) and (*e*) are *endogenous*.

Underfeeding and incorrect feeding are both of importance, but their assessment is manifestly difficult. The simplest available means of determining the possibility of underfeeding in such an inquiry as this is to note the money available in the family for the purchase of food; money, however, has widely different household values, and many mothers are extremely wasteful. The education of mothers in the art of spending is a much-needed requirement. The diet of such children is largely a carbohydrate one of bread and jam, a good mixed diet being none too common. Nevertheless direct evidence of incorrect feeding was scanty. Vitamin deficiency diseases were rare, and signs of old rickets at a minimum. A careful watch was kept for signs of vitamin A deficiency as described by Helen Mackay,[3] but no example of this was seen.

We have no better means of measuring a child's general condition than by a clinical estimate. Height and weight are the best indices we have, but they must always remain secondary to clinical judgement. If, then, the decision lies on clinical observation in which of the groups "good," "fair," or "poor" to place a child, this must, and does, vary with each individual observer. Each may have slightly varying standards, and there is a danger in these being coloured by individual political and social views, or by the sight of a badly clothed, dirty child, or the graphic tales of the parent or school teacher. The writer, whilst fully conscious of these difficulties, has endeavoured to examine each child free from prejudice. The majority of figures published on this question are a collection of results obtained by a variety of observers, and as this inquiry has been conducted by a single individual the factor referred to above should be minimal.

Detailed Examination of Findings

The material comprised 208 Cardiff children and 278 Rhondda children. Fourteen schools were visited in each area. Using the classification described above, the following results were obtained from the general physical examination.

	No.	Per cent.		No.	Per cent.
Cardiff:			Rhondda:		
Good ...	173	83.2	Good ...	255	91.7
Fair... ...	33	15.9	Fair ...	23	8.3
Poor... ...	2	0.9	Poor ...	0	0.0

In each area an analysis has been made and a comparison attempted between those children classed as "good" (hereafter termed Group A) and those classed as "fair" or "poor" (hereafter termed Group B). The idea has been to determine which factors are of importance, especially in relation to Group B. The general result may therefore be tabulated thus:

	No.	Per cent.		No.	Per cent.
Cardiff:			Rhondda:		
Group A	173	83.2	Group A	255	91.7
Group B	35	16.8	Group B	23	8.3

A more detailed examination under twelve headings is given below.

1. School Attendance

The average length of attendance in school prior to the examination was: Cardiff, five months; Rhondda, six months. The short length of attendance is important, because it signifies the minimal effect of school regime on the children.

2. Weight and Height

Spence's figures for the normal limits of weight and height have been used. These were compiled to include most of the normal weight and height lines in common use, and the zone of normality is considered wide enough to be used irrespective of sex. The figures are shown in tabular form below.

Weight

	Total		Group A		Group B	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Cardiff:						
Above normal	63	30.3	60	34.7	3	8.6
Within normal	84	40.4	77	44.5	7	20.0
Below normal	61	29.3	36	20.8	25	71.4
Rhondda:						
Above normal	45	16.2	45	17.7	0	0.0
Within normal	113	40.6	113	44.3	0	0.0
Below normal	120	43.2	97	38.0	23	100.0
Height						
Cardiff:						
Above normal	8	3.8	8	4.6	0	0.0
Within normal	137	65.9	123	71.1	14	40.0
Below normal	63	30.3	42	24.3	21	60.0
Rhondda:						
Above normal	7	2.5	7	2.7	0	0.0
Within normal	189	68.0	186	73.0	3	13.0
Below normal	82	29.5	62	24.3	20	87.0

These figures are of great interest. That as many as 43.2 per cent. of the Rhondda children are below normal weight suggests at once that underfeeding of these children in a "distressed area" may have some bearing on this, and at first sight these findings appear to contradict the low number of children found in Group B—namely, 8.3 per cent. On the other hand, of the children in Group B 100 per cent. were below normal weight. If a lowered weight is taken as a criterion of "malnutrition," then one would expect the height of these children to be lowered also. Approximately 30 per cent. are below normal height in both areas, but whereas there is a big difference in the weight figures between Cardiff and the Rhondda, the height figures are approximately the same.

The reason for these findings is not altogether apparent. The normal zones used are wide enough to include figures for both sexes, and in any case the proportion of male to female in this series is practically equal, there being only a slight preponderance of girls, whose average weight is a little less than that for boys at this age. In this connexion note may be made in passing of the effect of pre-natal deprivation on the weight in childhood observed by Wolff in Berlin.[4] From the nature of this investigation no data are available as to the state of nutrition of mothers in the Rhondda three to six years ago. Reference to school medical officers' reports during past years shows quite definitely a lower weight average in the Rhondda children between 3 and 5 years old than in the Cardiff children, the heights being approximately equal. These findings, then, although at first sight paradoxical, are in keeping with past findings, and illustrate the error which may occur if the weight alone is used as a criterion of "malnutrition." The results are shown graphically on page 1258.

3. Incidence of Infectious Diseases

	Totals		Group A		Group B	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Cardiff:						
Measles	126	60.6	103	59.3	23	65.7
Whooping-cough ...	92	44.2	74	42.9	18	54.1
Chicken-pox	55	26.5	47	27.2	8	22.9
Scarlet fever	21	10.1	19	10.9	2	5.7
Mumps	14	6.7	12	6.9	2	5.7
Diphtheria	4	1.9	3	1.7	1	2.8
Rhondda:						
Measles	122	47.1	116	45.5	6	26.1
Whooping-cough ...	75	27.8	69	27.1	6	26.1
Chicken-pox	40	14.4	36	14.1	4	17.4
Scarlet fever	29	10.4	27	10.6	2	8.7
Mumps	25	8.9	25	9.8	0	0.0
Diphtheria	5	0.2	4	1.6	1	4.3

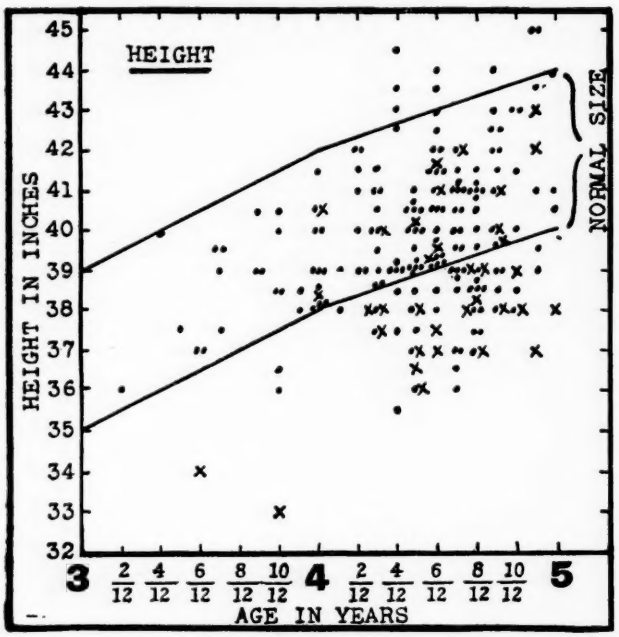
Two main results are derived from a consideration of these figures: (1) that the incidence of infectious diseases is, on the whole, higher in Cardiff than in the Rhondda; (2) that measles and whooping-cough head the list in both areas. These two conditions are noted for their deleterious effect on the health of a child, and the greater incidence in Group B in the Cardiff area would appear to be evidence of this. The Rhondda figures, however, show the exact opposite, with a higher incidence in Group A. I have no adequate explanation to offer for these findings.

4. Incidence of Respiratory Diseases

	Totals		Group A		Group B	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Cardiff:						
Bronchitis	47	22.6	38	21.9	9	25.7
Pneumonia	25	12.0	17	9.8	8	22.9
Rhondda:						
Bronchitis	66	23.4	60	23.9	5	21.7
Pneumonia	39	13.8	34	13.3	5	21.7

The evidence of these infections was taken from the mothers' statements. The reliability of the history of bronchitis may be challenged, but the history of pneumonia is probably accurate. It will be noted that the incidence of pneumonia is considerably greater in Group B in both areas.

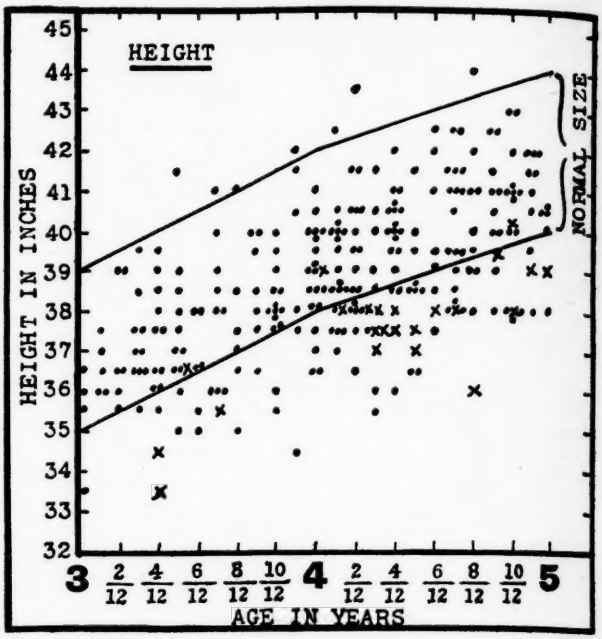
CARDIFF SCHOOLS



Group A (marked •): Above normal, 8 = 4.6 per cent.; within normal, 123 = 71.1 per cent.; below normal, 42 = 24.3 per cent.

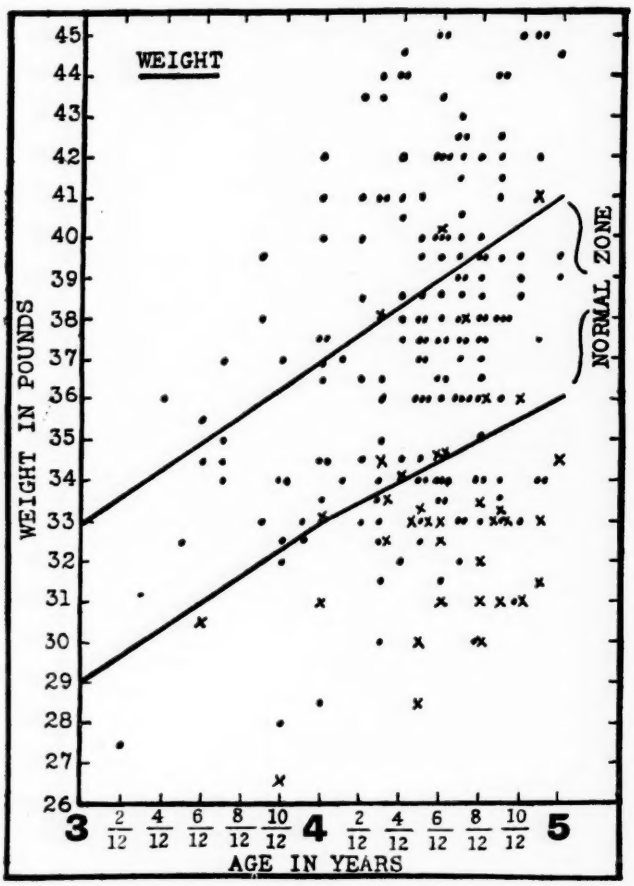
Group B (marked ×): Above normal, 0 = 0 per cent.; within normal, 14 = 40 per cent.; below normal, 21 = 60 per cent.

RHONDDA SCHOOLS



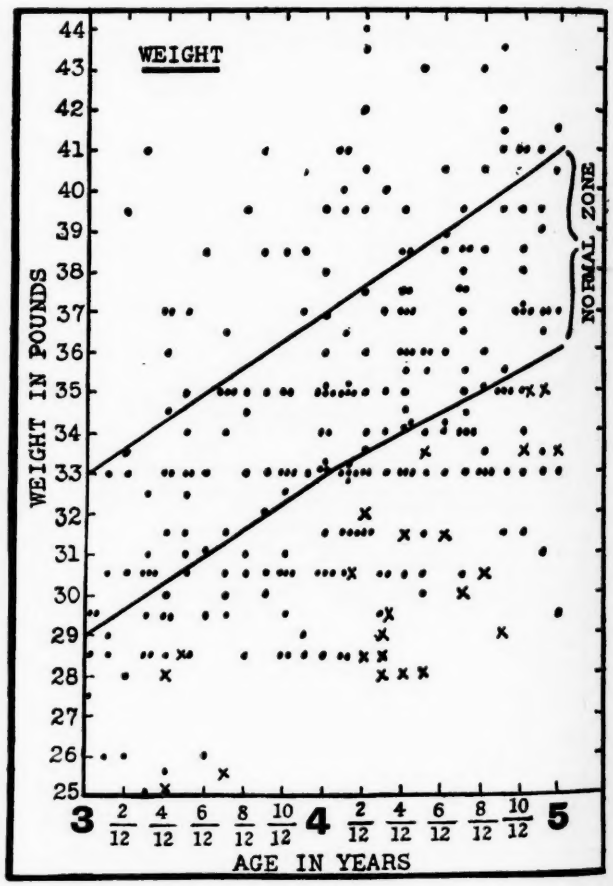
Group A (marked •): Above normal, 7 = 2.7 per cent.; within normal, 186 = 73 per cent.; below normal, 62 = 24.3 per cent.

Group B (marked ×): Above normal, 0 = 0 per cent.; within normal, 3 = 13 per cent.; below normal, 20 = 87 per cent.



Group A (marked •): Above normal, 60 = 34.7 per cent.; within normal, 77 = 44.5 per cent.; below normal, 36 = 20.8 per cent.

Group B (marked ×): Above normal, 3 = 8.6 per cent.; within normal, 7 = 20 per cent.; below normal, 25 = 71.4 per cent.



Group A (marked •): Above normal, 45 = 17.7 per cent.; within normal, 113 = 44.3 per cent.; below normal, 97 = 38 per cent.

Group B (marked ×): Above normal, 0 = 0 per cent.; within normal, 0 = 0 per cent.; below normal, 23 = 100 per cent.

5. INCIDENCE OF OTHER INFECTIVE DISEASES

	Totals		Group A		Group B	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Cardiff:						
Ear discharge	26	12 5	18	10.4	8	22.9
Sore throat	21	10.1	16	9.3	5	14.3
Skin infections	17	8.2	16	9.3	1	2.8
Rhondda:						
Ear discharge	33	13.7	32	12.6	6	26 1
Sore throat	32	11 6	27	10.6	5	21.7
Skin infections	35	12 6	33	13.0	2	8.7

These figures were obtained from the mothers' statements. The greater prevalence of running ears and sore throats in the Group B children is to be noted.

6. HISTORY OF FEEDING DURING INFANCY (139 INQUIRIES)

	Totals		Group A		Group B	
	No.	Per cent.	No	Per c nt	No.	Per cent.
Cardiff:						
Breast	65	46.7	55	48.3	10	41.7
Part breast	23	16 5	19	16.5	4	16.7
Artificial	51	36.8	41	35.2	10	41.7
Rhondda:						
Breast	140	50.4	130	50.9	10	43.5
Part breast	43	15.5	37	14.5	6	26.1
Artificial	95	34.1	88	34.5	7	30.5

It is noteworthy that only about 50 per cent. of the mothers were able to feed their child for the full time. Those who were able to feed for three months were graded as "part breast." That as many as one-third of the mothers pay money for artificial foods, even though it can be obtained cheap at clinics, is evidence of lack of proper education in this very important matter. The effect of breast-feeding is not directly manifest at the age under consideration, as the above figures suggest. It is well known that premature babies and marasmic infants seldom show clinical evidence after the age of 3. This particular inquiry does not bear direct relationship to the main issue, but has been included as part of a general dietetic survey.

7. CONDITION OF TEETH

	Totals		Group A		Group B	
	No	Per cent.	No.	Per cent.	No.	Per cent.
Cardiff:						
Good...	91	43.8	79	45.7	12	34.3
Fair	70	33.7	57	32.9	13	37.2
Poor	47	22.5	37	21.4	10	28.5
Rhondda:						
Good...	140	50 4	130	50.9	10	43.5
Fair	68	24.5	63	24.7	5	21.7
Poor	70	25.1	62	24.3	8	34.8

The teeth were marked as "good" in the absence of caries, "fair" where three or less teeth were carious, and "poor" when more than three teeth were carious or infected. The general standard of the teeth of these children was poor, and over 50 per cent. were in need of dental treatment.

8. CONDITION OF NASOPHARYNX

	Totals		Group A		Group B	
	No.	Per cent.	No.	Per cent	No.	Per cent.
Cardiff:						
Tonsils enlarged or unhealthy	92	44.2	75	43.4	17	48.6
Enlarged glands	145	69.7	119	68.8	26	74.3
Rhondda:						
Tonsils enlarged or unhealthy	107	38.5	93	36.5	14	60.9
Enlarged glands	171	61.5	151	59.2	20	87.0

The effect of tonsillar and, still more important, adenoidal infection on the health of a child under 5 is of great moment. The higher incidence of this in both areas in Group B is significant. The frequency of enlarged glands of the neck is a matter of note, and that the teeth are responsible for a large proportion is certain.

9. ECONOMIC ANALYSIS

	Totals		Group A		Group B	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Cardiff:						
Employed	130	62.5	111	64.2	19	54.3
Unemployed	50	24.0	41	23 7	9	25.7
Part employed	6	2.9	3	1.7	3	8.6
Father deceased or disabled	11	5.3	8	4.6	3	8.6
Not traced...	11	5.3	10	5.8	1	2.8
Rhondda:						
Employed	105	37.8	95	37.3	10	43.5
Unemployed	144	51.8	133	52.2	11	47.8
Part employed	7	2.5	7	2 7	0	0.0
Father deceased or disabled	16	5.7	14	5.6	2	8.7
Not traced...	6	2.2	6	2.4	0	0.0

The unemployment rate is definitely higher in the Rhondda, but in Group B there is little difference in that area, while in Cardiff a much larger proportion of Group B cases are from employed families.

10. AVERAGE MONEY PER PERSON PER WEEK (EXCLUSIVE OF RENT AND RATES)

	Totals	Group A	Group B
Cardiff:			
Employed	9/11	10/2	8/6½
Unemployed	4/8½	4/10	4/0
Part employed, father deceased or disabled	4/9	4/10	4/9
Rhondda:			
Employed	10/6	10/0	10/8
Unemployed	5/9½	5/9	5/11
Part employed, father deceased or disabled	6/4	6/5	5/4½

As previously stated, the home of each child was visited by the sanitary inspector, and details taken as to the economic and housing conditions. From the figures thus obtained an attempt has been made to determine the money available to purchase food and clothing, by deducting from the total money received in wages, subtenants, unemployment pay, etc., the amount paid out in rent and rates. This sum was then divided by the number in the family to give a comparative index. No adjustment was made for age distribution. The striking finding here is that in the area with the higher unemployment rate the moneys available for food and clothing are higher.

11. HELP IN KIND—MILK

There was very little evidence of help in kind, except for clothing, and it was not found possible to include this in any exact form. On the other hand, the question of extra milk through the schools and clinics is of paramount importance. It must be remembered that the majority of children under review had not been at school for any appreciable length of time, and the important period to consider in relation to extra milk is the time before entering school.

The arrangement in the Cardiff schools is that one-third of a pint of pasteurized milk daily is granted free of charge in necessitous cases, application being made by the parent. In other cases a charge of ½d. per one-third of a pint is made. No free milk is given at the welfare clinics after 1 year of age, and except by special order of the parish medical officer these children are unable to get extra milk. This means that between the ages of 1 and 3 years no special arrangement is available for these children.

In the Rhondda free milk, one pint per day, is provided at the school to children whose family incomes are below a specified scale, and those children attending a child welfare clinic may obtain their milk through the clinic, the latter being also governed by an income scale. From approximately October, 1932, to March, 1934, all children attending school were given two-thirds of a pint of milk irrespective of their financial circumstances, and this would cover some of the children under review. The milk supplied in the Rhondda is obtained from local vendors, is not of a specified grade, but has to conform to a recognized standard, and is examined for this from time to time.

It will be noted that during the whole of the pre-school time the Rhondda authorities grant free milk through their clinics, whereas in Cardiff this ceases after 1 year of age. Moreover, facilities are more readily available for the supply of milk in the Rhondda, and the amount granted is greater than in Cardiff.

12. HOUSING CONDITIONS

	Totals		Group A		Group B	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Cardiff:						
Overcrowding	14	6.7	10	5.7	4	11.4
House verminous ...	23	11.1	16	9.2	7	20.0
Rhondda:						
Overcrowding	14	6.0	11	4.3	3	13.5
House verminous ...	9	3.2	7	2.9	2	8.7

The housing conditions are noticeably worse in the case of the Group B children. It is to be noted that these figures were obtained by the sanitary inspectors in their corresponding areas, where their standards may differ slightly, but this does not vitiate the high Group B findings.

Analysis of Group B ("Fair" or "Poor") Children

An analysis of these cases may furnish a clearer idea as to the causes for their lowered health. Though the numbers are small, and a deduction therefrom may be open to criticism, nevertheless a close survey reveals certain interesting features.

The cases have been reviewed in the light of the classification described under the heading of "Evidence of Malnutrition," and divided into: (*a*) *endogenous* cases, in which there was clear medical evidence as a cause for their poor physique; (*b*) *economic* cases, where the housing and money conditions alone were abnormal; (*c*) *mixed* cases, showing both an endogenous and an economic factor; (*d*) *indeterminate* cases, where no definite cause could be assigned. Thus:

	Endogenous		Economic		Mixed		Indeterminate	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Cardiff ...	10	41.7	7	20.0	4	16.7	14	40.0
Rhondda	7	30.5	3	13.0	2	8.7	11	47.8

If the endogenous group is withdrawn from these figures the remainder will include those cases in which "malnutrition," in its true sense, is a possibility. This may be expressed, as a proportion of the total number of children examined, as the *relative malnutrition rate*. The number of cases in which the economic factor is the only determinate cause, divided into the total number of children, gives the *basal malnutrition rate*. Thus:

	Total Children Examined	Relative Rate		Basal rate	
		No.	Per cent.	No.	Per cent.
Cardiff	208	25	12.0	7	3.4
Rhondda ...	278	16	5.8	3	1.1

Conclusions

A comparison between Groups A and B would seem to show that the most important predisposing causes to a lowered physical condition are the following: (*a*) infectious diseases, especially measles and whooping-cough; (*b*) respiratory diseases, especially pneumonia; (*c*) other infective diseases, especially otitis media and sore throat; (*d*) unhealthy nasopharynx; (*e*) unsatisfactory housing conditions.

It is surprising to note the little apparent influence of unemployment and income. This may to some extent be accounted for by the greater opportunities for the provision of free milk to children from homes in necessitous circumstances, and the larger amount of free milk given in the Rhondda area, as compared with Cardiff, may have a bearing on the difference found between the results in the two areas. It is, of course, impossible to segregate completely the multiple causes of "malnutrition." The above factors are of necessity all closely interrelated, and overcrowding as a possible source of the spread of infection is obvious. It is of importance to note, therefore, the higher percentage of overcrowding in the Group B cases.

The finding that the "relative" and "basal" malnutrition rate was lower in a "distressed area" is at once a stimulant to review the evidence of previous inquiries. It behoves us, therefore, to consider this question free from bias and in relation to the many factors at work, in a more critical manner than has been the custom hitherto.

Summary

The main conclusions reached as the result of this inquiry may be summarized as follows:

1. That true malnutrition is not common in the areas examined.

2. That there is no single cause of malnutrition.

3. That endogenous factors have a greater immediate effect on the health than exogenous factors.

4. That an unsatisfactory economic state probably tends to promote the occurrence of ill-health and to prevent adequate convalescent environment and nourishment.

The writer acknowledges with grateful thanks the help and inspiration he has had from Professor Picken of the Welsh National School of Medicine. To Dr. Greenwood Wilson, medical officer of health for Cardiff, and to Dr. D. J. Thomas, medical officer of health to the Rhondda, his thanks are due for their interest, and for the facilities they gave him for the examination of the children. Acknowledgements are also due to the school medical officers who put up with the writer's presence during their routine inspections; to the head teachers who so kindly arranged for the attendance of parents; to the sanitary inspectors in both areas, whose difficult task has been so helpful to the inquiry; and lastly, to the York Trust for a grant towards expenses.

REFERENCES

[1] Spence: "Investigation into the Health and Nutrition of Certain of the Children of Newcastle-upon-Tyne."
[2] Board of Education Memorandum No. 124.
[3] Mackay, Helen: *Arch. Dis. in Child.*, 1934, ix, 65.
[4] Wolff: *Lancet*, 1935, i, 1066.

RECENT ADVANCES IN TRACHOMA*

BY

F. H. STEWART, M.D., D.Sc.

MAJOR I.M.S. (RET.); PATHOLOGIST, MEMORIAL OPHTHALMIC LABORATORY, GIZA, EGYPT

Trachoma is a disease affecting infants, children, and adults; it frequently destroys or impairs sight, is painful and troublesome, and greatly reduces individual efficiency. It is distributed round the whole tropical and subtropical zones, with extensions into temperate climates. The proportion of the population affected may be as high as 90 to 99 per cent. It is probably no exaggeration to say that one-quarter of the population of the globe suffers from it. The discovery of the cause of this disease is therefore one of the prizes of scientific medicine.

Theories of Causation

In spite of more than fifty years of work this question is still undetermined. The difficulties in the way are considerable. Until recently no animal was known which was uniformly susceptible; the ordinary laboratory animals such as rabbits, guinea-pigs, dogs, etc., are immune, and the more common monkeys are quite unreliable. Bacterioscopic methods reveal no organism constantly present, nor has any one been cultured which reproduces the disease. Filtrates are generally not infective. There are, however, two important theories of origin: (1) from bacteria, and (2) from a granular virus.

1. In 1925 Noguchi isolated a bacillus which he named *B. granulosis* from trachoma in North American Indians. He claimed that it produced characteristic and progressive lesions in chimpanzees and rhesus monkeys. This organism has not, however, been constantly found by other investigators. It cannot be isolated from the highly infectious conjunctival secretion, and inoculation into man does not cause trachoma. It has therefore not been generally accepted.

2. The Prowazek-Halberstaedter body, an inclusion in epithelial cells of trachomatous conjunctivae, was discovered by these two workers in Java in the year 1906. In its fully developed state it consists of a vacuole filled by a vast number of granules, the elementary granules, each about 1/4 μ in diameter. The early stages of this inclusion are called initial bodies. They may be free or intracellular. The former, as described by Lindner, cannot be distinguished morphologically from polar staining bacilli such as *Pasteurella avicida*. The latter take various shapes resembling bacteria, such as cocci, bacilli, etc. The staining reactions of trachoma films to Giemsa are instructive. The following stain dark blue—namely, all bacteria and all "initial bodies," both free and intracellular—while elementary granules stain purple. The inclusion can be demonstrated in a varying percentage of trachoma cases, different authors claiming from 40 to 100 per cent. The elementary granules when not aggregated together have no distinguishing characteristics (Halberstaedter), and may be present without being demonstrable. They cannot be cultivated. When material from a conjunctiva with inclusions is transferred to another eye, either of man or monkey, inclusions may form in the second eye. In man these transferred inclusions are preceded by a vast number of "initial bodies" identical in appearance with staphylococci or streptococci (Mijashita, three cases), or by an acute Koch-Weeks conjunctivitis (Thygeson, one case) or an acute conjunctivitis of undetermined nature (Addario, three cases; Greeff, one case; Micael and Vancea, eight cases; Kapuscinski seven cases). These human cases developed typical trachoma. Of inoculated monkeys only one in four develops inclusions, which may be accompanied by clinical trachoma, but more often are not, while clinical trachoma may appear without inclusions. Filtration experiments have been negative except in three cases.

* A paper read to the Egyptian Branch of the British Medical Association at Cairo, April 25th, 1935.

Laboratory Work at Giza

We now turn to the work which has been done in this laboratory during the last five years.

1. In the first place, an animal had to be found which would be constantly susceptible. The Barbary apes, recommended by the Pasteur Institute of Tunis, proved completely resistant to Egyptian trachoma, but baboons both grey and yellow, and grivets, from the Sudan, were found to react in every case. Experimental trachoma in these animals consists of an outbreak of follicles covering the whole upper retrotarsal conjunctiva, appearing twenty to thirty days after inoculation and persisting for long periods.

2. Examination of conjunctival films in three hundred cases. Prowazek-Halberstaedter bodies were not found in pure, uncomplicated trachoma, but only in trachoma complicated by infection with bacteria, especially the Koch-Weeks bacillus and the gonococcus.

3. "Initial bodies" in these cases are bacteria phagocytosed by epithelial cells. As the bacteria are digested elementary granules appear in their place.

4. In infected monkeys, inclusions have been found only in two out of twenty-six experiments, and then in very small numbers. Free elementary granules sufficiently numerous to be identified have been found only in four out of twenty-six. Monkeys' eyes are relatively free from pathogenic germs, and of course never harbour Koch-Weeks bacilli or gonococci, although acute conjunctivitis for twenty-four to forty-eight hours follows inoculation of these germs.

5. After passing suspensions of virulent trachoma secretion through Berkefeld V candles or gradocol membranes of 0.6 and 0.7 μ a.p.d., the filtrate is not infective, although it may contain elementary granules.

Examination of Hypothesis

We are therefore led to the hypothesis that the granular virus of trachoma is introduced into the conjunctiva in the bodies of bacteria of several species, the Koch-Weeks bacillus and gonococcus being the most important in Egypt. These bacteria, acting as intermediate hosts, are phagocytosed to form the Prowazek-Halberstaedter bodies, which are the ports of entry for the elementary granules of the virus. The latter are liberated by the bursting of the inclusions, and are dispersed through the conjunctiva. They are then no longer recognizable.

Looking for confirmation of this hypothesis in the literature we recall the initial bodies, mentioned above, which in Central Europe (Lindner and Botteri) and in North America cannot be distinguished while free from the bacillus Pasteurella. In Japan (Mijashita), in the Malay Islands (Prowazek and Halberstaedter), and in Europe intracellular forms have all the appearance of staphylococci, streptococci, pneumococci, and gonococci, or again of Pasteurella. In New York inclusions are formed from Koch-Weeks and other haemophilic bacilli (Williams).

We also find that similar inclusions occur in: (1) inclusion blennorrhoea of the newborn; (2) swimming-bath conjunctivitis; (3) epitheliosis desquamativa of Samoa; (4) chronic papillary hypertrophy of the Mariannes; (5) the conjunctivitis of swine fever. Taking these in order, (1) is associated with the gonococcus to this extent, that mixed cases containing gonococci and inclusions occur out of all proportion to the mathematical probability of

two unrelated things coinciding; they would coincide more frequently still if it were not for the Credé prophylactic which destroys gonococci but not inclusions, since the mothers of children with pure inclusion blennorrhoea have repeatedly been found carrying gonococci. Inclusion blennorrhoea can, however, be reproduced from a filtrate (Botteri); it is therefore probable that, being a more acute disease than trachoma, it can be transmitted directly in experiments as well as by an intermediate bacterial host. (2) in some outbreaks has been associated with Koch-Weeks bacilli. It is probably the adult form of (1), the two together making up paratrachoma of Lindner. (3) is definitely associated with the *Diplococcus samoensis* of Rossiter. (4) is associated with *Bacillus marianensis*, while nothing is known of the bacteriology of (5).

Conclusion

Summing up, then, this hypothesis explains the resemblance between initial bodies and bacteria, the sudden transition from the former to the very different elementary granules, the fact that inclusions are found only in complicated trachoma, their rarity in the relatively aseptic conjunctivae of monkeys, the clinical observation that trachoma follows acute Koch-Weeks ophthalmia in Egyptian villagers (Wilson), the non-filterability of the disease and its lack of resistance to glycerin.

This hypothesis is at present being treated by experiment. If it is not true, there seem to be two further alternatives. One is that the elementary granules are unable to pass a filter in an infective condition. They are described by Halberstaedter and others as surrounded by a clear space in Giemsa preparations, which may represent a capsule. A capsule would double or treble their size, and would almost certainly render them unfilterable, while it is possible that non-capsulated forms are not infective. The other alternative is that the elementary granules play no part in the causation of trachoma.

BIBLIOGRAPHY

Addario: *Arch. Augenheilk.*, 1900, xli, 20.
Botteri: *Klin. Mon. Augenheilk.*, 1912, l, 653.
Greeff, Frosch, and Clausen: *Arch. Augenheilk.*, 1907, lviii, 52.
Halberstaedter and Prowazek: *Arb. gesundheitsamt*, Berlin, 1907, xxvi, 44.
Halberstaedter: *Handb. d. Pathogenen Protozoen*, 1911, p. 172.
Kapuscinski: *Proc. Warsaw Akad. Med. Sci.*, 1921.
Lindner: *v. Graefe's Arch.*, 1910, lxxvi, 559.
Micael and Vancea: *Rev. Inter. Trach.*, 1932, p. 33.
Mijashita: *Klin. Mon. Augenheilk.*, 1918, xlvi, II, 626.
Noguchi: *Journ. Exper. Med.*, 1928, xlvii, Supp. 2.
Rossiter: *U.S. Naval Med. Bull.*, 1908, 1909, II and III.
Stewart: *Annual Report Giza Mem. Oph. Lab. for 1933*, 1934.
Thygeson: *Amer. Journ. Oph.*, 1933, xvi, 409.
Williams, A. Wessels: *Journ. Infect. Dis.*, 1914, xiv, 261.
Wilson: *Annual Report Giza Med. Oph. Lab. for 1930*, 1931, p. 63.

E. Fischmann (*Thèse de Paris*, 1935, No. 131) states that during the Middle Ages and up to the eighteenth century the Jews appear to have paid a heavy tribute to tuberculosis, but since the beginning of the nineteenth century it is generally agreed that the resistance of Jews to pulmonary tuberculosis is much greater and the mortality much less than that of the surrounding population. Acute forms of tuberculosis are extremely rare among the Jews, the disease, when it occurs, showing a tendency to chronicity, and thereby enabling the individual to lead an almost normal life. The resistance of the Jews to tuberculosis, though it varies to a certain extent with social conditions, cannot be explained by the factor of race, as all anthropologists are agreed as to the complete absence of any racial unity among the Jews. The author thinks that the prolonged contact of past generations with tuberculous infection due to their exclusively urban existence is a better explanation of their resistance to the disease than the other causes sometimes invoked, such as hygienic or religious regulations and natural sobriety.

FIVE HUNDRED FOREIGN BODIES IN THE STOMACH

BY

R. STEWART KENNEDY, M.B., CH.B., D.P.M.

SENIOR ASSISTANT MEDICAL OFFICER, THE COUNTY MENTAL HOSPITAL, UPTON, CHESTER

The usual "foreign body cases" are either hysterical or suicidal, and it is of interest that the patient whose history is given below swallowed the articles in response to the delusion that his stomach was too smooth. Again, unlike the hysterical or suicidal case, he did not advertise the fact.

His physical condition gave little indication of the true state of affairs. After two years of almost daily vomiting, and with 3½ lb. of assorted metal in his stomach, emaciation was slight, as was the degree of anaemia.

Clinical Record

The patient, a single man aged 28, was admitted to the County Mental Hospital, Upton, Chester, on May 24th, 1933, as a temporary patient under the Mental Treatment Act, 1930. His occupation was that of a farmer, which he followed on a small farm.

He was the youngest of a family of eight—two brothers and two sisters died in infancy. Of the remaining three, one brother and one sister are married and well; the remaining sister lives with the mother on the farm, and is well. The father died twenty-four years ago of "cancer of the stomach." The only definite psychopathic heredity was found on this side. Two cousins of the father (the patient's second cousins), a brother and sister, committed suicide by shooting about twenty years ago. Two other second cousins (males) of the patient have been patients here, one of them on two occasions. Both presented exactly the same psychosis—that of recurrent melancholia—and both are at present well.

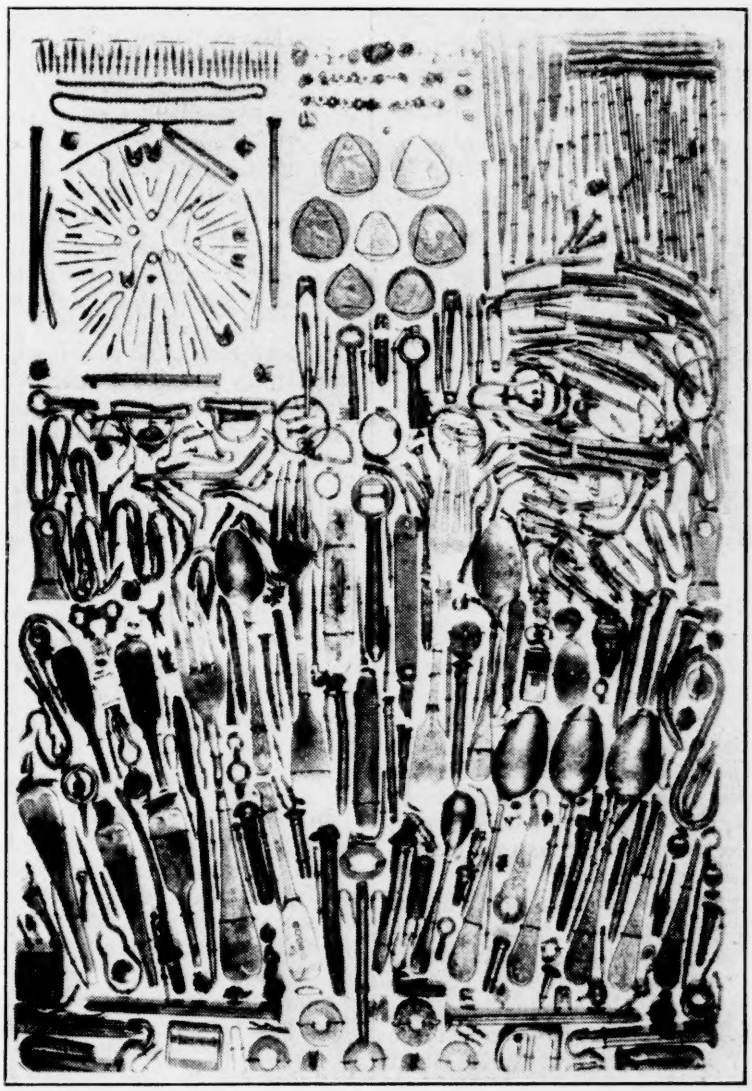
The patient, after leaving school, where he had been a very poor scholar, started work on his mother's farm. For the last four years he was very lazy and sulky, and did very little work. Two years ago he started vomiting, and had done so after almost every meal since. He was always thirsty, and often drank vinegar; he was also fond of drinking a decoction of dandelion leaves.

After the diagnosis of his gastric trouble was complete, the mother and sister were interviewed at the hospital. Both were found to be very emotional, and could give only a very garbled history. They had considered the possibility of the patient having swallowed things, as they had missed many forks and spoons and various articles about the house, but he always denied it. They first started missing the articles about a year prior to his admission here.

On admission the patient was dull, lethargic, and disinterested. Five days later he had not changed. He was totally disorientated in time, place, and person. He answered questions in a monosyllabic manner, and was obviously indulging in fantasy. It was almost impossible to approach him in the sphere of reality.

He stated, on being questioned, that he was in the police station, and that I (the examiner) was a landowner. After, he was made with difficulty to understand that he was in hospital, and, pressed for a reason for this, said, "Well, my stomach is too smooth." This statement was followed by inquiries as to what he had done about this, and if he had swallowed rough things. He denied swallowing anything but food, and would say nothing further. On subsequent examinations the result was the same; he did not even repeat that his stomach was too smooth. His habits were utterly degraded. Masturbation was frequent and open. Most of the day he was content to lie under the bedclothes. He sometimes gazed round the room smiling foolishly, and appeared to have auditory hallucinations. He was diagnosed as an advanced schizophrenic.

He was thin and spare in build, and pale in complexion. Routine clinical examination of heart and lungs showed no abnormalities. The heart was within normal limits to percussion, and sounds were clear and pure at all areas, and the rate and rhythm regular. The lungs were normal to percussion and auscultation. The central nervous system (so far as examination without the patient's co-operation would allow) showed no signs of organic disease. His pupils were equal, central, and circular, and reacted well to light and accommodation. The tendon-jerks and gait were normal. The tongue was coated posteriorly; the teeth showed no gross sepsis, but a few were carious. The abdomen was scaphoid, and inspection revealed no abnormality. On palpation there was tenderness just below the xiphisternum. A vaguely outlined mass was found occupying the epigastric and left hypochondriac regions. Occult blood was present in the faeces and in the vomit. A blood count showed: red blood cells, 3,500,000; white blood cells, 9,600; haemoglobin, 75 per cent. The urine was normal. Wassermann's reaction in the blood was "weakly positive"—this was unfortunately not repeated. He never complained. His only reply on being asked how he felt was "All right." He was put on fluid diet, and did not vomit till two days after admission. He was *x*-rayed, and the skiagrams showed the epigastric mass to be impervious to the rays.



Operation

Laparotomy was performed on June 6th, 1933, under open ether. The abdomen was opened by a left "round-the-rectus" incision. The stomach wall presented, and showed marked venous congestion. An area of the anterior wall was isolated with packs and incised. The foreign bodies were removed digitally, great difficulty being experienced to avoid bringing out too many at a time, as they were matted, and the extraordinary diversity of form of the articles necessitated much care. The mucous membrane presented an appearance which can only be described as polypoid. Large masses of tissue almost buried many of the articles.

Although he was bearing the operation well, it was felt that shock might occur at any moment, and further exploration was not attempted. The stomach was closed, the wound being invaginated by a continuous suture. The abdominal wall was closed in layers and drained, saline being left in the peritoneal cavity. His condition on leaving the table was fairly good. He recovered from the anaesthetic and seemed reasonably comfortable. He again gave his reply "All right" on being asked how he was. Ten hours later he collapsed and died.

Post-mortem Examination

The body was emaciated; small wounds (from picking his skin) were present on the hands. A surgical wound was present on the abdomen. *Skull:* The meninges were opaque, thick, and oedematous. The grey matter of the brain showed a slight degree of atrophy, with widening of the sulci. There was increased cerebro-spinal fluid, and the ventricles were slightly dilated. *Thorax:* Slight excess of pleural fluid was found. The bases of both lungs were congested. The heart was soft and flabby, and slightly under weight (220 grams), but no gross lesions were found. *Abdomen:* The surgical wound was as it had been left after the operation, very slight oozing of blood having occurred. The stomach was dilated, the walls thickened, and the mucous membrane thrown into great folds; it was almost black in colour, and in some places several patches were atrophic. The pyloric orifice was markedly stenosed. Four minute beads and three gramophone needles were found embedded in the mucous membrane. The intestines showed no gross abnormalities, nor were any foreign bodies found there. The liver showed chronic venous congestion, with thick treacly bile in the gall-bladder. Both kidneys appeared normal. The pancreas and suprarenals were normal.

I have to thank Mr. McAdam Eccles, at whose suggestion the specimen was sent to the Royal College of Surgeons of England Museum and the case published; and my superintendent, Dr. G. Hamilton Grills, for permission to do so.

The articles have been mounted by Mr. S. Bithell, technical assistant, Pathological Department, R.C.S., where they are preserved, and include: 218 screws and nails, many of large size (4 inches); thirty-six staples, mostly of large size (1½ inch); five teaspoons, three of which are broken in two; one egg spoon; the handles of eight spoons; three table forks (broken in two); three pocket knives; one buttonhook; thirty-seven gramophone needles; one door key and two box keys; two large meat hooks; forty-five needles or safety-pins (whole or fragments); twelve metal buckles and rings; a shilling and six copper coins; one brass tap handle; one live revolver cartridge; and 117 miscellaneous articles mostly metallic, but including a few beads and fragments of glass and china. Total 500, weighing about 3½ lb.

The photograph of the mounted specimen, taken by Mr. Pash of the Pathological Department, shows the articles remarkably clearly. I am indebted to Mr. L. W. Proger, Pathological Curator, R.C.S., for the use of this.

Remarks by Mr. W. McAdam Eccles, M.S., F.R.C.S.

Dr. R. Stewart Kennedy most kindly at my suggestion presented this exceedingly varied collection of articles retrieved from a human stomach to the Museum of the Royal College of Surgeons of England.

He has done well to place this case on record, for whilst this man had not swallowed the largest number of articles which have been found, yet these foreign bodies are so diverse as to be almost enough to furnish a shop!

The short bibliography annexed, collected by Mr. le Fame, the Librarian of the College, gives reference to the chief cases of these excessively large numbers of articles from within the gastric organ.

BIBLIOGRAPHY

Chalk and Foucar: *Arch. of Surg.*, 1928, xvi, 494—2,533 various objects.
Vandivert and Mills: *Journ. Amer. Med. Assoc.*, 1911, lvi, 180—1,446 objects
Winslow: *Ann. of Surg.*, 1919, lxx, 60—nearly 1,300, mostly small.
Curl and Culver: *Journ. of Radiol.*, 1922, iii, 489—nearly 1,200, including over 1,000 carpet tacks.
Matthews: *California State Med. Journ.*, 1913, xi, 13—1,149 hairpins, nails, etc.
Matthews and Hoisholt: *Amer. Journ. of Insanity*, 1917–18, lxxiv, 569—921 similar objects from Matthews's patient, at a second operation after four years' interval. The patient was an insane woman; complete recovery from both operations.
Eliason: *Journ. Amer. Med. Assoc.*, 1917, lxix, 2106—452 foreign bodies, 213 gall-stones.
Tabular summaries of previous cases in:—Credé: *Arch. f. klin. Chir.*, 1886, xxxiii, 574. Friedenwald and Rosenthal: *New York Med. Journ.*, 1903, lxxviii, 110.
A review of the literature in Thorek: *Internat. Clinics*, 1924, iii, 282.

PNEUMOCONIOSIS IN SOUTH WALES COLLIERY SURFACE WORKERS

BY

ARCHIBALD HARPER, L.M.S.S.A.

In view of the findings at Cardiff Docks, and later at Swansea Docks, among coal-tippers and coal-trimmers, the following notes may be of interest as regards the presence of pneumoconiosis among the surface workers in part of the South Wales coalfield—anthracite area. These men do not come under the scope of the present Silicosis Order, and are therefore not entitled to compensation should they develop coniosis as a result of exposure to dusts in the course of their employment.

With a view to finding out the presence or otherwise of this disease among such workers, I examined thirty youths and men who had never at any time been employed underground, but whose employment had been near or at the screens and crushers. These men were not specially chosen, but they had never worked underground in the "process." The ages of those examined varied from 21 to 68 years, and they were youths and men who had been employed in or about the colliery surface for periods varying from four to forty-five years. No clinical examination was made, but the history showed that most of the men examined suffered from respiratory catarrh during the winter months. One suffers from asthma at times, another had had pneumonia on two previous occasions. Those in the later stages of the disease suffered from marked dyspnoea on exertion, and the difference between deep inspiration and full expiration was as little as half an inch. One of them, who showed gross mottling, had been a stone-mason's labourer till the age of 25 years some forty years ago, while several had been employed as farm labourers.

X-Ray Findings

The *x*-ray findings were divided into the usual three stages, and the stages of the disease did not correspond either to the age periods or to the length of time worked. It was impossible to limit the exact occupational site of each patient, but they all worked on the screens and crushers.

The first stage showed on screen examination that both apices were normal, and that the hila were slightly exaggerated, while in the right hilar region a very fine lacework was to be noted. The cupola of the diaphragm on both sides was irregular in shape, although its movements were good. Marked emphysema at the base of both lungs was present. This stage advanced until a similar network was noted in the left lung field, and the two lung fields had a general ground-glass appearance. From the number examined ten were found in this stage, whose ages ranged from 23 to 58 years, and who had been employed from nine to thirty-two years under the above conditions.

The second stage of the disease could be classified into early, medium, and late. Here the apices were greyish, but cleared up entirely on coughing. In the right lung field the dendritic processes were more marked in the hilar region than in the left lung field. The costo-diaphragmatic angle was clear, but obtuse on both sides, while the diaphragm was markedly flattened. In the lacework arrangement occupying the middle half of the right lung field some few irregularly shaped granular opacities were noted. The heart was globular. This condition advanced until both lung fields were occupied by granular opacities, irregular in size and shape, with marked cresting of the diaphragm. The heart shape varied from globular to vertical, and both lung fields seemed to be equally the seat of the condition. In this stage sixteen men were found, whose ages ranged from 21 to 72 years, and who had been employed from four to forty-four years.

The third stage showed lung fields containing woolly masses with intersecting lines (snowball) and varying-sized single opacities. The cresting and irregularity of the diaphragm during the screen examination showed marked limitation of movement and wave-like undulations on quick breathing. The heart was vertical. The sputa of all these cases were negative. There were four in this stage; their ages ranged from 50 to 66 years, and they had been employed from thirty to forty-one years.

Discussion

I can find no difference on roentgenological examination between these men, who do not come under the Silicosis Order, and the men who work in hard-headings with drilling machines, except that in the early stages of the disease the surface workers appear to suffer more from deformity of the diaphragm with emphysema.

The fact that these men do undoubtedly suffer from pneumoconiosis, and that they have never at any time been underground, would at once nullify the statement made that the cause of the increase of silicosis in South Wales is due to the men being taken underground on a "spake" and not in a "cage." It further shows that our present knowledge of the extent of pneumoconiosis is limited, and that little progress can be made until team work on the part of mining engineers, mineralogists, radiologists, and pathologists, together with the aid of other interested parties, is undertaken, so that all results, no matter from what source, may be collected and their exact significance ascertained.

These findings would also substantiate with some little reason my previous statement that the extent of this disease in the steam and soft coal areas is absolutely unknown, since no systematic examination has been carried out in these areas. If the extent of the disease had been known even in South Wales then these surface workers would certainly have come under the provisions of the Silicosis Order.

I am indebted to Professor Cummins, Welsh National School of Medicine, for comments on some of the *x*-ray films, and to Dr. P. K. Sen for reports on sputum.

Clinical Memoranda

Fibroma of the Stomach

Fibroma of the stomach is of such rare occurrence that the following case is of interest. A. J. Blaxland, recording a case in the *British Journal of Surgery* in 1923, states that whereas fibromata are mentioned in certain textbooks[1] as occurring in the stomach, he could find no evidence of the report of a case. He mentioned, however, that nineteen cases of myomata or fibromyomata of the stomach had then been recorded.[2] Some of these were of great size, one weighing 5½ kilograms and another being the size of a man's head. The marked microscopical resemblance between a fibroma and a fibromyoma makes it reasonable to suppose that some of the recorded cases may really have been pure fibromata. Since then a few cases have been reported both at home and abroad.

A well-preserved man of independent means, aged 62, consulted me on account of pain in the upper abdomen, coming on about an hour to an hour and a half after meals. There was some loss of appetite, but no vomiting. These symptoms had come on gradually for about a fortnight. There was practically no past history of indigestion, except that, for about two years, soon after an indiscretion in diet, he had experienced severe mental depression. Feeling that he understood the cause of this, he would lie down for an hour or so, when this state of mind would leave him completely. He made a mental list of the indigestible foods that seemed to bring on these attacks and tried to avoid them. He was a heavy cigarette smoker, and had been so for many years. The face, although rather thin and drawn, had a bright colour, and did not suggest malignant disease.

On examination nothing of note was found, other than a furred tongue, and marked right-sided epigastric rigidity. There was no deep tenderness on palpation. An opaque meal radiographic examination report was negative as to organic trouble, but occult blood was found in the faeces. A tentative diagnosis of duodenal ulcer was made, assuming that the ulcer had been present for some time, but quiescent. Strict intensive alkaline treatment in bed was therefore advised, and carried out by the patient for seven weeks with apparently good results. The pain went after a fortnight, and the patient said that he felt steady but definite improvement, and he certainly looked much better. But disturbing features were the fact that occult blood was persistently found in the faeces, and the rigidity of the right upper rectus remained, though this was less marked.

Another radiographic examination was now made, much against the patient's wish, as he insisted that he was now practically well. The radiologist, while the patient was being screened in the upright position, in the act of pressing the opaque meal from the body of the stomach towards the pylorus, noted that the stream was divided into two—one narrow section at the upper part, and another larger at the lower—as though the main flow was divided by a growth, as, indeed, it was. From this the radiologist diagnosed malignant disease.

I now asked the late Mr. Dyball of Exeter to see the case. His opinion was that the mass was a benign growth, probably a fibroma. He advised an operation for its removal, and this he performed, removing the growth and doing a gastro-jejunostomy. Recovery was uninterrupted. At the operation, when the abdominal muscles were relaxed under anaesthesia, the abdomen was palpated, but no tumour was felt.

The pathologist, Dr. W. A. Robb of Exeter, examined and reported on the growth as follows. Examination of resected portion of stomach: specimen consisted of a globular tumour (2 inches in diameter) attached by broad base to the stomach wall about 1½ inches proximal to the pylorus. The mucous membrane was ulcerated at the base. Sections (stained by haematoxylin and Van Gieson): the tumour is a cellular fibroma; near the base increased vascularity and numerous eosinophils point to a late stage of superimposed inflammation.

[1] Kettle, E. H.: *The Pathology of Tumours.*
[2] Keen's *Surgery*, vol iii.

This case illustrates the value of the test for occult blood in the faeces. In the first place, it pointed to the fact that one was dealing with organic trouble, in spite of the early negative *x*-ray report, and secondly, without it one might have accepted the patient's assurance that all was well with him, and so have lost valuable time.

Beaminster, Dorset. H. A. LAKE, M.D.

Treatment of Repeated Abortion

The following case is recorded as an example of the application of modern hormone therapy in the treatment of repeated abortion.

The patient, who is of tall, slight build, and too thin, gave the following history. Menstruation regular, pain slight, loss always in excess of average. Married in **1923**. October, **1926**, miscarriage at three and a half months, followed by curettage for retained secundines and correction of retroversion. Menstruation irregular for twelve months. In **1928** uterus appeared healthy on bimanual examination; in **1929** the tubes were proved patent by insufflation and the cervix was dilated. No pregnancy occurred until March, **1930**, but miscarriage ended this (? twin ova) at seven weeks.

In June, **1932**, the patient, now aged **35**, became pregnant again, and in July consulted me for the first time. Retroversion was corrected by a Hodge pessary and every precaution taken, but the foetus was extruded at three and a half months, and the placenta, being adherent, had to be removed piecemeal. This showed degenerative changes both in the placental and in the decidual cells, without haemorrhage (Dr. Galt). It suggested hormonal, especially corpus luteum, subactivity. The next menstrual period was with heavy loss, but checked by calcium given intramuscularly. General treatment was carried out—ultra-violet light baths, calcium, iron, vitamin D—and "prolan pellets" were taken for the middle fortnight of each month. The periods became less exhausting, but a better effect was obtained from oestrin taken by mouth. The patient gradually put on weight, and complained less of exhaustion.

Early in February, **1934**, insulin was begun in doses up to 2 to 5 units per diem, with glucose by mouth, and a satisfactory increase in weight was thus obtained. The general condition had so far improved that another pregnancy was begun in March, **1934**. The administration of anterior pituitrin (Armour) was begun on April 5th. The Pregnancy Diagnosis Station, Edinburgh (Dr. Wiesner), on May 5th reported "considerable quantities of oestrogenic hormone and oestrin" but "luteinization was not obtained." The indications were, therefore, to persist in treating the case with gonadotropic hormones, in the hope of stimulating the corpus luteum hormone. A slight uterine haemorrhage in May was checked by calcium gluconate and antuitrin "S" (Parke Davis) given hypodermically. On May 28th the Aschheim-Zondek test was positive in only two out of five mice, and not positive in all five until July 7th (Dr. Mary Leslie-Smith, New Sussex Hospital). Antuitrin "S" was continued daily during every third week throughout June and July, with prolan pellets by mouth during the intervening fortnights—that is, up to the end of the fifth month of pregnancy. Wheat-germ oil was also taken. All treatment was stopped at this period, except for insulin, which was continued throughout the pregnancy and lactation.

On November 30th, **1934**, the patient was delivered of a healthy girl infant, weighing 7¾ lb. Labour was normal, aided by two doses of pituitrin **0.5** c.cm. The placenta came away entire, and was free from any appearance of abnormality. Lactation has been up to a high standard.

It would have been of interest to estimate the gonadotropic hormone content of the urine throughout this pregnancy, but it proved unnecessary. The laboratory reports gave the indication for endocrine treatment, and their help is gratefully acknowledged.

Hove. LILIAS M. JEFFRIES, M.D., B.S.Lond.

Reviews

THORACIC SURGERY

In a field of surgery which has been developing so rapidly as thoracic surgery there has naturally been a certain hesitancy to write a textbook on the subject. Since Sauerbruch's *Chirurgie der Brustorgane*, published in 1925, and Lilienthal's *Thoracic Surgery*, published in 1926, many developments have taken place, and a new book on the subject is very opportune. *Surgical Diseases of the Chest*,[1] by GRAHAM, SINGER, and BALLON, should fill an obvious gap in the medical libraries. The old books are out of date, medical journals have been flooded with papers heralding the advance of thoracic surgery, and it was high time that all this information was sorted, weighed, and condensed into a book.

Everts Graham requires no introduction to the English reader, as he is already well known for his work on cholecystitis and as the introducer of cholecystography. He writes this book in conjunction with his medical colleagues on the chest service of the Barnes Hospital, St. Louis, U.S.A. It is a large volume, containing 1,070 pages, but so well indexed and subheaded that the reader has no difficulty in finding what he wants quickly and easily. Extensive reference to the world literature is made in the text, and at the end of each chapter there is a lengthy bibliography, which is subheaded in the same manner as the sections in the chapter. Detailed reports of typical cases are found throughout the book. The indications and results of various forms of treatment are considered at length, but the technical details of operative procedures are on the whole rather briefly mentioned and poorly illustrated. In controversial subjects both sides of the question are stated, and the authors, perhaps wisely, do not commit themselves.

The book starts with an excellent chapter on some physiological considerations of importance to the thoracic surgeon. There is a chapter on the diseases of the heart and pericardium, so far as they concern the surgeon, with a very full account of the treatment of angina pectoris by surgical methods. There is also a whole chapter devoted to the diaphragm. Bronchiectasis occupies over one hundred pages. In this chapter, as elsewhere, we find excellent subsections with such headings as "The fate of the individual when untreated or inadequately treated in bronchiectasis"; "The prophylaxis of bronchiectasis," while the subject of phrenicectomy in the treatment of bronchiectasis occupies eight pages. We think it a pity that the bronchoscopic diagnosis and treatment of diseases should be isolated in a chapter by itself, instead of being in its correct place in the various chapters—for example, the bronchoscopic treatment of lung abscess is not found in the section on lung abscess. It is a reflection on the authors that they did not write this chapter themselves. For a full understanding of the place of the bronchoscope in the diagnosis and treatment of chest diseases every thoracic surgeon or physician should be personally acquainted with the uses of this instrument.

The book is undoubtedly an excellent one. The text is sound and full of wise judgement, which comes from extensive experience. It is well written and easy to read, and is copiously illustrated with many radiographs and diagrams. Physicians and surgeons interested in diseases of the chest will find it of the greatest value on account of the detailed information on all aspects of the subject—both rare and common—as well as for the extensive bibliographies.

[1] *Surgical Diseases of the Chest.* By E. A. Graham, A.B., M.D., F.A.C.S., J. J. Singer, M.D., F.A.C.P., and H. C. Ballon, M.D., C.M., F.A.C.S. London: H. Kimpton. 1935. (Pp. 1,070; 637 figures. 65s. net.)

"MEDICAL ANNUAL"

The *Medical Annual*[2] is an indispensable book to the general practitioner who wishes to keep abreast of the advances made over the whole field of medicine. In their introduction to the present volume the editors say:

> "Altogether, looking back on the published work of this and preceding years, one derives the impression that the progress of medical knowledge is speeding up, and much of the new information is of first-class importance in practice. It becomes more than ever necessary for the medical man to read, if he is to give his patients what they have every right to expect."

The burden of reading at the end of a heavy day's work, or in a few moments of relaxation during the week-end, is no light one for a man who, from the nature of his profession, must be a perpetual student. This burden may be lightened by happily chosen pictures, which will tell the story in fewer words than the average medical writer's prose. And if criticism of so admirable a work is permissible we would say that the reproductions in the *Medical Annual*, excellent as they are, tend to illustrate the unusual case or the difficult operation rather than those which are more common. This adds to the bulk of the volume. The fare offered is good, but perhaps too rich. We agree with the editors that the modern general practitioner should read more—we would say more often. But if he is to be encouraged and helped to do so, he should (paradoxical though this may sound) be given less. It appears to us a little extravagant to illustrate with a full-page plate "an interesting occasional physical sign" in a case of Gravitz tumour.

To mention by name the numerous valuable articles in this volume would end in reprinting the excellent index provided at the beginning. But in addition to subjects treated in the usual textbook or professional journal are those on neuroses in children and nervous disorder in general practice by Dr. Henry Devine, and that by Dr. Leonard P. Lockhart on medicine in an industrial State. The recent article by Dr. Halliday in our *Supplement* on the extent of neurosis in insured patients, and the emphasis laid on the teaching of psychology in the report of the Conference on the Medical Curriculum, add force to Dr. Devine's statement that "the logic of medical progress demands that with the new knowledge of mind made possible by psycho-analysis this therapy [psychotherapy] may be employed by the physician with new understanding and skill." Dr. Lockhart, who also draws attention to the importance of the psychological factor in the illnesses of the industrial worker, says: "Attention must be turned to the industrial worker no longer merely as a man or girl operating a process, but as an individual trying to live his life in a system which is the direct result of applied science."

That these subjects are dealt with in the *Medical Annual* is evidence of the concern of the medical profession with the "whole man" at a time when specialism is on the increase and when the discovery of isolated facts is proceeding apace.

POPULATION AND FOOD SUPPLY

Mr. E. F. PENROSE's book *Population Theories and their Application, with Special Reference to Japan*,[3] is a publication of the Food Research Institute, and, presumably on account of the fact that much research work into the sources and utilization of food supplies is of

[2] *The Medical Annual. A Year-Book of Treatment and Practitioner's Index.* Fifty-third year. London: Simpkin Marshall Ltd.; Bristol: John Wright and Sons Ltd. 1935. (Pp. 600; 141 figures, 63 plates, plain and coloured. 20s. net in the British Isles.)

[3] *Population Theories and their Application, with Special Reference to Japan.* By E. F. Penrose. Stanford University, California: Food Research Trust. 1935. (Pp. 347. 3.50 dollars.)

direct medical interest, it is sent to the medical journals for review. The book is not, however, of primary medical interest. It does contain some information respecting the food supplies of Japan, but is primarily an economic treatise, composed in a careful, highly qualified language, and enunciating propositions which sound to the outsider like truisms, and either infuriate or perplex the general reader. "To say that an area is over-populated is to say there are too many people in it, in some sense or other. There may be much disagreement on the proper criterion to apply, but all will agree that the crux of the matter is the influence of numbers on something" (p. 52). "Welfare may be defined as an aggregate of attained desirabilities" (p. 74). These, and a great many similar aphorisms, would provoke Persius's centurion to ask his famous question, *Cur quis non prandeat hoc est?* Mr. Penrose argues convincingly that the apprehensions aroused by Japanese policy are certainly not due to some mysterious special fecundity of the Japanese race, and he reaches the conclusion that if only human beings, as individuals and nations, acted intelligently there would be no real danger of over-population. *En route* he records some instructive observations on social and economic conditions in Japan. But we cannot honestly say that his literary style is calculated to remove the man-in-the-street's belief that economic treatises are dull reading.

GASTRO-DUODENAL RADIOLOGY

It is seven years since the publication of the first edition of the two-volume atlas on radiology of the stomach and and duodenum by DUVAL, ROUX, and BÉCLÈRE. In that time much improvement in radiological technique has been made, both in the apparatus and in the knowledge of what to look for. The second edition,[4] which has just appeared, will therefore be studied with interest. It again consists of two large volumes of radiograms illustrating the appearances of the stomach and duodenum in normal and diseased states. The authors have followed their former procedure of publishing only those cases the diagnosis of which has been verified at surgical operation or post-mortem. The radiograms are set out on the right-hand page, and opposite are diagrams which help in their elucidation. The text, after a very short introduction on general principles and methods to be adopted by the clinician and radiologist, serves to discuss the details of the radiograms and the inferences to be drawn. It has been rewritten, and covers the whole field of the stomach and duodenum in health and disease. Since the last edition was published much advance has been made in the definition of radiograms, so that the detail of the arrangement of folds of mucous membrane is now an essential part of the picture. The interpretation of these folds is of great importance, not only in the diagnosis of gastritis, but of ulcers and their state of healing and of growth. Much space in the book is devoted to the varieties of appearance, therefore, and the whole is a treasury of information which it is a pleasure to study. The arrangement is simple to follow. Diagnosis and picture are presented together, and the clinical appeal is paramount. There are over five hundred radiograms, and of these only a few have been carried over from the first edition. Compared with the previous edition the general standard of the pictures is better, but again some of the radiograms lack the clear definition obtainable with modern apparatus and technique. This is perhaps explained by the pictures being a few years old owing to the lapse of time before verification of the appearances is obtained. The two volumes at present before us represent a fine piece of work, and the collaboration of surgeon and radiologist in the authorship has produced a book that will be a welcome aid to all who are interested in the subject. The paper, binding, and get-up are in the best tradition of the publishing house of Masson.

[4] *Radiologie Clinique du Tube Digestif.* Vol. i, *Estomac et Duodénum.* Vol. ii, *Duodénum* (second part). By Pierre Duval, Jean-Charles Roux, and Henri Béclère. Second edition. Paris: Masson et Cie. 1935. (Pp. 372; 106 plates. Relié toile, 300 fr.; relié, 330 fr.)

A HEALTH CENTRE SCHEME

Readers of *Health, and a Changing Civilization,*[5] will soon find that its author, Dr. EDGAR OBERMER, has two obsessions. One is that, though he views what he calls the "neuro-endocrine-circulatory system" as the one pivot of health and its disturbance as the main cause of disease in man, the generality of the medical profession pay very little attention to it. Another is that the regimentation and documentation of practically the whole population from birth to death at the hands of whole-time medical practitioners and other technical experts in the civil service associated with a State institution and clinic is the only means by which the health of any class of persons can be properly safeguarded. If anyone doubts this he has only to note the high proportion of pages after the first fifty on which the phrase placed above in inverted commas, or something like it, occurs; and to read the portentous details of the health scheme set out in Chapter VI.

Dr. Obermer draws a very pessimistic picture of the present state and outlook of the medical profession and of the attitude of the public towards health questions, and this has the appearance of being drawn with a view to supporting the drastic proposals thereafter made. It is not a fair picture, nor is it accurate even as far as it goes. Though there may be some measure of foundation for a few of his strictures, the author ignores every mitigating circumstance, and fails to indicate that there may be schemes built on entirely different lines from his own which may possess merit. He seems to have very little practical acquaintance with, or appreciation of, branches of practice other than that in which he is himself mainly engaged. As regards national health insurance practice he is inaccurate as to the capitation fee and as to the limitations placed on the number of insured persons a doctor may have on his list. He is wrong when he says: "In theory a panel practitioner is called upon to keep detailed records of each panel patient. This is more honoured in the breach than in the observance. The majority of panel practitioners have no time to keep records. If a medical man makes his living entirely out of panel practice"—exceedingly few do—"he has to enrol such numbers that he has no time for anything but urgent medical attention," and "If he engages in a mixed private and panel practice he is apt to be divided between loyalty to duty and self-interest. . . . He is hampered by an increasing number of regulations and restrictions emanating from the medical officer of health and his panel committee." Dr. Obermer clearly has no notion of the functions of either the one or the other in this connexion.

Further, it is not true to say that "the newly qualified medical student enters practice with no equipment or knowledge as to normal or physiological human beings." Of how many tuberculosis officers is it correct to state that they "go closely into the details of the damaged part of the body—that is, the lungs—but entirely ignore the individual as a whole who is suffering from the disease"? And how many obstetricians would accept the statement that "the obstetrician is essentially a technical

[5] *Health, and a Changing Civilization.* By E. Obermer, M.D. London: John Lane, The Bodley Head Ltd. 1935. (Pp. 171. 3s. 6d. net.)

expert in the mechanics of childbirth and in pelvic operative technique. Even if he is interested, which is unusual, in the physio-pathology of pregnancy, he possesses neither the training nor the facilities for investigating the causes of those disturbances"; or that "ante-natal care is at present confined to the very necessary function of measuring the pelvis"? These are but samples. Dr. Obermer says he has written this book for the lay public and not for the medical profession. Can it be to the advantage of either to present so inaccurate and unfair a picture? With regard to some of his strictures the author says: "It is not my function to express an opinion as to whether these criticisms are justified." We submit, on the contrary, that no medical man—or anyone else—should set them out for the public without at least inquiring and discussing whether they are justified or no. One additional but important error of omission may be pointed out. Dr. Obermer is apparently unaware—at all events he does not mention—that council hospitals are now commonly available for classes of the public who do not come under the Poor Law.

With such an imperfect observation of the case and hence such a doubtfully valid diagnosis and prognosis, with no consideration at all of alternative methods of treatment which would preserve an appropriate or even predominant place for private practitioners, whether general or special, it may scarcely seem worth while to examine carefully the actual remedy submitted. This would, however, be a pity, for the author has given much thought to it: he sets it out with some degree of modesty as to its claims, he admits that it is Utopian, and invites criticism. It is a contribution to the pool of thought on this matter which should not be ignored. But it is unlikely to be acceptable to either the public or the profession in this country, where liberty, independence, and personal responsibility may still be valued as highly as health, with which they are not incompatible.

Notes on Books

Written for laymen by a layman, Mr. R. A. HOWDEN, and disarmingly dedicated to his friends among medical psychologists, to whom he acknowledges a great debt of gratitude, *The Man in the Street and the New Psychology*[6] is easy reading, and avoids the use, as far as possible, of strange technical terms. The work is divided into three parts—the conscious, preconscious, and unconscious—and the last receives most attention. The popular term "inferiority complex" is clearly discussed and the over-compensation reaction illustrated. The author, while following Freud, cannot be accused of minimizing the influence of sexual factors.

Last year the friends and students of Professor Parhon of Bucarest combined to present him with a jubilee volume of original works, in honour of his attaining the sixtieth anniversary of his professorship.[7] Professor Achard, in a preface, refers to the recent establishment of a chair of endocrinology in Bucarest and to the appropriateness of the appointment of Professor Parhon as its first occupant. Professor Parhon has been engaged for thirty years in researches in endocrinology in its clinical and experimental aspects, and the great treatise on that subject, written in conjunction with Goldstein, is evidence of his extensive knowledge. The jubilee volume contains fifty-six articles, many of considerable interest, among which may be specially mentioned that of Professor Achard on infantilism and cardiac disease, of L. Ballif on tumours of the spinal cord, of M. Briesse on the microcephalic brain, of J. Goldner on fat cells and their relation to the reticulo-endothelial system, of A. Kreindler on chronaxy in endocrinology, and of Falta on thyroid disease and diabetes. The volume contains an excellent portrait of Professor Parhon.

We have received a copy of *A Message to the Neurotic World*,[8] by Dr. FRANCIS VÖLGYESI, translated from the Hungarian by Dr. BARNARD BALOGH. This book, as the title suggests, deals in a somewhat popular fashion with the subject of mental illness, drawing a parallel between the Oriental peace of mind and the collective neurosis of Europe. It offers a good deal of solid reading. After a classification of mental types, in which the author deals with hysteria, neurasthenia, and hypnophilia, he passes to "Neuroses and the passions," and puts forward practical suggestions for the avoidance of that disharmony which forms the basis of so many nervous complaints. Hypnosis, of course, figures largely in this book. There is an interesting chapter on the ancient culture of the soul in India and Japan.

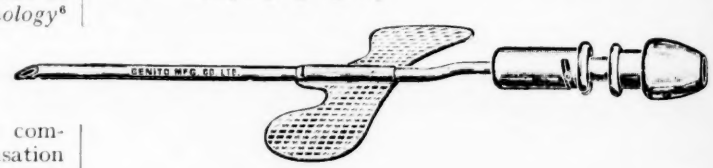
A German-English Dictionary for Chemists,[9] by A. M. PATTERSON, is a small dictionary which was first published in 1917, and has now reached its second edition. The vocabulary has been increased to 42,000 entries, and a cursory inspection suggests that it covers the great majority of German chemical terms in common use. In addition to chemical terms the meanings of common abbreviations are also given, and this is a very useful feature. The volume is of a convenient pocket size, and all who have to consult German chemical literature and are not complete masters of the technical phraseology should find it very useful.

[6] *The Man in the Street and the New Psychology*. By Richard Amaral Howden. London: H. Milford, Oxford University Press. 1935. (Pp. 78. 2s. 6d. net.)
[7] *Volume Jubilaire en l'Honneur du Professeur Dr. C. I. Parhon*. Jassy: Institut d'Arts Graphiques. 1934. (Pp. 555; illustrated.)
[8] *A Message to the Neurotic World*. By Dr. Francis Völgyesi. Translated from the Hungarian by Dr. Barnard Balogh. London: Hutchinson and Co. Ltd. 1935. (Pp. 304; 12s. 6d. net.)
[9] *A German-English Dictionary for Chemists*. By Austin M. Patterson, Ph.D. Second edition. New York: J. Wiley and Sons, Inc.; London: Chapman and Hall Ltd. 1935. (Pp. 411. 15s. net.)

Preparations and Appliances

APPLIANCE FOR CONTINUOUS INTRAVENOUS SALINE

Mr. HAMILTON BAILEY, F.R.C.S. (London, W.), sends the following description of the needle and cannulae for continuous administration of intravenous saline which are shown in the accompanying figures:



This is a needle for inserting into the vein by a puncture. Once it is in place satisfactorily it is kept at rest by fixing a strip of adhesive plaster across each wing, the limb being placed upon a splint.

The above is the cannula described in an article written in conjunction with Mr. J. M. Carnow, which appeared in the *British Medical Journal* of January 6th, 1934. The cannula is used when the veins are too collapsed for the employment of a needle.

The last figure shown is a cannula for small veins—for example, such as are found in childhood.

All the above are gold-plated, which minimizes intravenous clotting, and, although they withstand considerable use, they should be replated from time to time. They are made by the Genito-Urinary Manufacturing Company.

REPORT OF THE POISONS BOARD

The following is a summary of some of the more important recommendations of the Poisons Board in the report[1] to which reference was made in an annotation published last week at page 1229.

The Poisons List

In the Poisons List the Board has not included preparations and admixtures as such, but substances defined in the Act as substances capable of identification. The Board adds that in law a substance in the List remains a poison, although embodied in a preparation or admixture containing other ingredients, and only ceases to be a poison on undergoing a chemical change which alters its chemical identity. A preliminary clause declares that the List is to be understood in this sense. Phrases such as "all poisonous alkaloids," "poisonous cyanides," and poisonous constituents of digitalis" are avoided, and the Board has endeavoured to specify each item so as to leave no doubt of the exact limits of application of the List. The number of items in the List is thereby increased. In general, technical terms are used, but the more common poisonous substances, particularly the alkaloids, are specified by their common names. The Board recommends the publication of an explanatory memorandum giving in detail, with their popular names, the articles commonly found in commerce which are included in the List. Where poisons appear in articles which, by reason of their nature or the condition in which they are sold, present little danger in practice the Board recommends that they should be exempted from the provisions of the Act (Rule 10).

After pointing out that the Act contains no definition of a poison, the Board interprets its duty to be not merely regulation of the sale of poisons to the public, but protection from all dangers arising from poisons, in so far as these dangers can be met by the regulation of sale, supply, storage, and transport. The Board then discusses the risks against which control is directed. It does not favour the inclusion of substances in the Poisons List specially because they can be means of suicide. Most substances commonly used for suicide, among them hydrochloric and other acids, phenolic disinfectants, and barbiturates, are in the List for other reasons. The point becomes important for drugs not inherently toxic, but providing a means of suicide if taken in large quantities. In this latter category is acetyl-salicylic acid (aspirin). From 1925 to 1933 106 fatalities were attributed to this drug, and the figures are apparently increasing. But the Board says:

> When, however, consideration is given to the enormous quantities of aspirin that are consumed without injury and to the abnormally large quantity that must ordinarily be taken to provide a fatal dose, we have not thought the evidence of danger sufficient to justify the scheduling of this drug as a poison. Nor do we consider that its inclusion could provide any protection for persons who have the deliberate intention to poison themselves by it.

After discussing industrial poisons and proposing that carbon tetrachloride and other similar halogenated substances should be considered for inclusion at a later stage, the Board explains in detail its dealing with phenol and its homologues sold as disinfectants. It has inserted all phenols in the List, and has given a definition of phenols covering the homologues. It proposes that carvacrol, thymol, and phenols occurring naturally in essential oils should be exempted, as also coal-tar creosote, but not disinfectant or other fluids containing this. No exemption is recommended for disinfectants containing a very low percentage of phenols, which are described as inefficient and by no means harmless. For traces of arsenic or cyanides present in commodities, or for plants and seeds covered by the Poisons List, which are common articles in horticulture, the Board makes no specific provision, but leaves the decision to the common sense of all concerned.

[1] Home Office. Report of the Poisons Board in regard to the Poisons List and Draft Poisons Rules prepared in accordance with the Pharmacy and Poisons Act, 1933. Cmd. 4912. London: H.M. Stationery Office. 1935. (1s. net.)

The Two Parts of the List

The Board then discusses the distribution of poisons between Part I—substances to be sold retail only by qualified pharmacists—and Part II of the Poisons List, the latter broadly including poisonous substances used for sanitary, industrial, horticultural, or agricultural purposes, or as sheep dips or vermin killers. The Board remarks that toxicity is not intended to be the governing factor, and that, except in the case of preparations for human ailments, any substance in common use and requiring a general distribution should be placed in Part II, with special rules to meet any public danger apprehended from the presence of poisons on the premises of unqualified persons. It does not propose the inclusion in Part II of substances of which the common use is not in the public interest, as, for instance, the domestic use of hydrochloric and oxalic acids. Nor does it include in Part II any of the acids to which Section 5 of the Poisons and Pharmacy Act applies, other than sulphuric acid. Of poisons used in agriculture and horticulture, several arsenical substances, sodium fluorides, sodium silicofluoride, nicotine, sulphuric acid, and various compounds of mercury are included in Part II, but not cyanides, which the farmer can still obtain from a wholesaler or from an authorized seller of poisons. Of vermin killers, barium carbonate is included in Part II, and red squill is exempt, but white arsenic, phosphorus, cyanides, and strychnine are not to have the wide distribution accorded to poisons in Part II. The Board points out that the use of arsenical weed killer is a criminal offence under the Protection of Animals Act, 1911 and 1927.

The Board is divided on the treatment of the preparation known as lysol, and by a majority has decided to retain in Part I both lysol and dilutions of lysol. The majority points out that over 300 fatalities, suicidal or accidental, are classed yearly to lysol, and also argues that as lysol is a standard surgical antiseptic, products sold as lysol, particularly if purchased by midwives, should be of the standard laid down in the *Pharmacopoeia*. The minority doubts whether the control provided by the Act can be used effectively to prevent suicide. It believes the choice of means of suicide to be imitative, and recommends that publicity should not be given to the use of lysol in cases of suicide, or else the name "lysol" should no longer be permitted to be employed.

Poisons Rules

The report then proceeds to the Poisons Rules. The Board remarks that the greatest danger to the public from poisons occurs in the homes of the public, and thinks the accepted custom should be to keep all articles labelled "Poison" or "Caution" in one place, preferably under lock and key, away from other articles, and out of the reach of children. Poisons should in all circumstances be labelled with an appropriate warning, irrespective of the class of seller or the type of purchaser. The Board proposes to apply the labelling provisions of the Act at every stage of distribution from the manufacturer downward. All liquids for external application should be labelled with "Liniment," "Lotion," etc., and a caution that they are not to be taken internally. All liquid poisons other than medicines, in bottles of 120 fluid ounces or less, should be labelled "Not to be taken." A proposal is made to establish a standard fluted type of "poison bottle." No specific safeguard is practicable against the inadvertent taking of an overdose of poison or medicine. Rule 28 has been drafted to ensure that not only arsenical preparations, but all poisonous preparations which are peculiarly liable to be used for murder, shall be so coloured as to make the poison capable of easy detection.

The report proceeds:

> "Several members of the Board have observed with some concern that, having regard to Section 19, in practice no medicine need be labelled with the word 'Poison' or other cautionary words, since they feel that there are certain drugs, notably those of the barbituric acid group and others generally sold in tablet form, frequently in bottles of fifty or a hundred, the dangers of which should be brought to the notice not only

of the patient, lest he should be tempted to take the drug in a greater dose or at more frequent intervals than those prescribed, but also of anyone else who may take it believing the medicine to be innocuous. The medical and pharmaceutical members of the Board, on the other hand, point to the established custom whereby the information given on the container of a medicine does not disclose the name or character of its ingredients, and represent that any change in this respect would be strongly opposed by the medical profession, which finds that it is not always beneficial to treatment that the patient should learn the nature of the drugs prescribed. In these circumstances we feel that the responsibility must be left to the medical practitioner, dentist, veterinary surgeon, or pharmacist, as the case may be, either to see that potent drugs are not supplied in dangerous quantities, or, if they are so supplied, to give a warning by directions on the label or otherwise that will be adequate to prevent the inadvertent misuse of the medicines. Not only in the matter of the labelling of medicines but also in other connexions have we had in mind that the members of the four professions concerned may be expected to observe the necessary precautions."

The Board recommends the placing in a First Schedule, attached to the Rules, a list of substances which, by their insidious character, the small amount of the fatal dose, or the ease with which they can be mixed with food or drink, are peculiarly dangerous.

Signed Orders

The report discusses signed orders, as alternatives to signature of the "poisons book." It says:

"The strong protest against the provisions of Section 3 of the Dangerous Drugs and Poisons (Amendment) Act, 1923, to which the Departmental Committee referred in para. 54 of their report as a point for the rule-making authority to consider, was repeated to us by the British Medical Association. Dr. Bone strongly supports the representations of the Association. Although he has no objection to a medical practitioner being required to sign an order for the drugs to which the Dangerous Drugs Acts apply and, in fact, is inclined to consider such a restriction necessary to prevent abuse of those drugs, he takes the view that it is entirely unnecessary to require the signature of a medical practitioner in the case of other poisons. He is unable to accept the view that there is in this matter any distinction in principle between a sale to an authorized seller of poisons and a sale to a dispensing doctor. He considers that, as both are conversant with the dangerous properties of poisons, both should be equally free to purchase poisons without a signature. He also represents that it is harassing to a busy dispensing doctor, who may normally leave the maintenance of his stock of drugs to a dispenser or member of his family, to be required himself to sign orders for drugs."

On this the Board feels that as the requirement applies solely to the substances included in the First Schedule there is not sufficient evidence of hardship to justify discarding a requirement which was specifically imposed by Parliament as recently as 1923, by way of a relaxation of a former restriction and, indeed, without objection being made by, and with the apparent concurrence of, the medical interests.

Records in Prescription Book

The Board thinks it would be anomalous if an authorized seller of poisons were to be required, as he is by Section 19 (3), to enter in a "prescription book" the particulars of a sale of a substance not included in the First Schedule merely because it is sold on a medical prescription. To remove this anomaly, also arising in the case of a supply by a medical practitioner, it proposes [Rule 8 (1)] that the provisions of Section 19 (3) should be relaxed to permit the supply of such substances without an entry in the "prescription book" when made by medical practitioners for the purpose of medical treatment and by authorized sellers of poisons on a medical prescription.

It is not recommended that the total exemption given by Section 19 (4) to national health insurance prescriptions should be extended to cover prescriptions issued under a public authority's health service. In the opinion of the Board the case will be met by exemption from the requirement that particulars should be entered in the "prescription book," provided that the prescription, or a true copy of it, is retained on the premises on which it is dispensed.

Retail Sale only on Prescription

The Board closely considered the extent to which powers given by the Act to prohibit the sale of poisons, except on a medical, dental, or veterinary prescription, should be exercised. It thinks that restriction to medical prescription should be applied only to drugs which experience has shown are liable to be self-prescribed with fatal results. These are set out in the Third Schedule of the Draft Rules. Nor does it recommend extension to this group of drugs of the requirement in the Dangerous Drugs Regulations that a prescription shall not be dispensed more than three times. The questions whether and for how long a patient should be permitted to obtain supplies upon the prescription should be left to the doctor in charge of the case to decide, and the prescription should not be permitted to be dispensed more than once unless the prescriber specifically authorizes it, and then only for such number of times and at such periods as may be directed on the prescription. Requirements in regard to the name of the poison contained in Rule 15 (1) (*a*) (i) are in part intended to put a stop to the growing practice of manufacturers of proprietary medicines of employing chemical descriptions of well-known drugs in such a form as to be unrecognizable except by an organic chemist. Notable examples of this practice are the description of ephedrine as ethylmethylamino-hydroxytoluene and of amidopyrine as dimethylaminophenyl-dimethylisopyrazolone.

Hospitals and Dispensaries

Of hospitals and dispensaries the report says:

"Although the control of poisons in many hospitals is known to us to reach a high order of efficiency, we have reason to believe that the conditions prevailing in some are not so satisfactory and that serious accidents from time to time occur through a laxity of supervision and insufficient care. In framing our recommendations we have aimed at providing a set of rules of a very general character which are capable of amplification in detail to suit special requirements. We would wish the rules that we recommend to be considered to represent the minimum precautions to be taken, it being contemplated that the authorities concerned will institute such additional control and supervision as the circumstances of the institution may require. We attach particular importance to the routine inspection of all stores of poisons, poisons cupboards, etc., by a person specially nominated for the purpose. In all institutions where there is a whole-time pharmacist, he will normally be the person nominated. We have, however, left it to the discretion of the authorities of the institution to appoint some other qualified person, as, for example, a resident medical officer.

"As regards the supply of poisons from hospitals, etc., to out-patients we notice that, as Section 18 stands, the practice of some hospitals and dispensaries of supplying out-patients with their medicines at a nominal charge becomes, if the medicine should contain a poison, illegal. We presume that such cases were intended to be met by rule, and propose, accordingly, the relaxation of Section 18 to permit the practice to continue.

"The supply of poisons from hospitals, etc., to out-patients should be placed, we consider, under similar requirements in regard to labelling and records as is the supply of medicines from pharmacies and doctors' dispensaries."

The Board further recommends that the control of the manufacture of pharmaceutical preparations for the internal treatment of human ailments should be restricted to registered pharmacists, medical practitioners, Fellows and Associates of the Institute of Chemistry, and to persons who have been so engaged for a continuous period of three years. A special warning is proposed for containers of hydrocyanic acid to be used in fumigation.

A recommendation is made that the authorities in Northern Ireland should examine the Rules to remove or avoid discrepancies, particularly in regard to labels and containers.

The Hufelandische Gesellschaft, one of Germany's best-known medical societies, recently celebrated the 125th anniversary. It was founded in 1810 by Christian Wilhelm Hufeland, professor at Jena and Berlin, author of a work on long life entitled *Makrobiotik*, and editor of four different medical journals.

British Medical Journal

SATURDAY, JUNE 22nd, 1935

OBSTETRIC DISPROPORTION

The term "obstetric disproportion" is of comparatively recent origin; it expresses the rebound of obstetric thought from the long-established conception that the size and shape of the pelvic cavity were the dominant factors in forecasting the issue of labour. In fact, there are two others equally important: the size and pliability of the foetal head and the efficiency of the expulsive forces. All three of these factors are equally involved in the determination of disproportion. The first two have now received general recognition; the third has not, although it is clear that unless the forces are adequate for the work they have to do "disproportion" will ensue as certainly as if the foetal head were too large to pass through the pelvis without assistance. This, in effect, is the theme of the able and thoughtful article by Mr. R. Christie Brown which appears at page 1251, and his suggestion that "a revision of our conception of the diagnosis and treatment of disproportion is necessary" appears to be well founded.

A study of recent reports of our lying-in hospitals leads to the suspicion that there are at present no generally accepted principles governing either the diagnosis or the treatment of disproportion. In the report of one large hospital the term "disproportion" is not used at all, but a long list of cases of induction for "contracted pelvis" is given. In the majority of these cases the diagonal conjugate diameter measured 4 or $4\frac{1}{4}$ inches; in one case the measurement was $4\frac{1}{2}$ inches. In the report of a second hospital, on the other hand, the term "contracted pelvis" is rarely used, nearly all being classed as cases of "disproportion." In this report no measurements of the diagonal conjugate diameter are given, suggesting that little importance is attached by this hospital to pelvic measurements. The difficulty of diagnosis, which is emphasized by Mr. Christie Brown, is well illustrated by the case of a primipara of 29 in whom induction for "disproportion" was carried out; the diagonal conjugate diameter measured $4\frac{3}{4}$ inches, and the child weighed 5 lb. 6 oz. when born—that is, it was well below the average weight. If the diagnosis of disproportion is a problem difficult enough at times to defeat the hospital, the general practitioner and the midwife can hardly be expected to do better. "If the righteous scarcely be saved where shall the ungodly and the sinner appear?"

The plan advocated by Mr. Christie Brown is that when in the later weeks of pregnancy difficulty is encountered in engaging the head in the brim, arrangements should be made to test the efficiency of the expulsive forces and their potent auxiliary—the fortitude of the mother, in spontaneous labour. This constitutes a "test labour," and the description given of its management will repay careful attention. It may be necessary to allow labour to proceed for twelve hours before an accurate estimate of the degree of disproportion can be made, and continuous skilled observation is required to catch the indications of coming trouble as soon as they appear. The test labour is not free from risk, for if a considerable degree of disproportion is revealed it may be necessary to terminate labour by high forceps or by Caesarean section.

It is evident that extensive experience of the test labour in the hands of experts and under the best hospital conditions will be required before its practical utility can be gauged and before it can be recommended for general adoption. It is claimed that a primipara who comes successfully through the test may safely be left to deliver herself in future; on the other hand, there is the admission that should it prove necessary to terminate the test labour by Caesarean section, this operation must be repeated in future pregnancies. To the mind of the average obstetrician it will probably appear wiser to carry out an induction which may subsequently be proved to have been unnecessary than to undertake a test labour which in the end may involve major risks to both mother and child. Any movement in the direction of conservative midwifery is deserving of encouragement, but it will be for Mr. Christie Brown and the generation of obstetricians to which he belongs to establish the claim that the test labour is in fact a conservative procedure. It will be necessary, further, to work out the detailed management of the labour and the signs of coming danger in the order in which they appear. The method of test labour cannot be recommended for general adoption in cases of presumptive disproportion unless the results of such an extended trial in the hands of different observers prove satisfactory.

STUDY OF A FILARIAL INFECTION

About twenty years ago Robles drew attention to the occurrence among inhabitants of certain parts of Guatemala of a subcutaneous fibrous tumour situated usually upon the head. He showed that it was caused by a filaria, and noted that when on the scalp it was not infrequently associated with disturbances of vision, which, if not too advanced, disappeared after removal of the tumour. He also called attention to a specific type of erysipelas which affected individuals harbouring the parasite. The fact that the ocular lesions had not then been described as a complication of onchocerciasis in other parts of the world, and that the examination of a few specimens of the filaria from Central America revealed certain differences from the well-known *Onchocerca volvulus*, led Brumpt in 1919 to give the name *O. caecutiens* to this parasite. Certain authorities, however, were not convinced of the validity of this new species, doubts which were strengthened by the discovery of ocular lesions in African cases of *O. volvulus* infection. The increasing prevalence of the disease in

Guatemala led Professor R. P. Strong, who had had previous experience of the infection in Liberia, to plan an expedition to study the conditions under which the disease occurred and appeared to be extending. He has now issued a freely illustrated report[1] on the investigations carried out during 1931 and 1932, and on the results of the subsequent study at the Department of Tropical Medicine in Boston of the material collected.

The expedition consisted of Professor Strong himself, Drs. Sandground and Bequaert, well-known helminthologist and entomologist at Harvard Medical School, and Dr. Ochoa, parasitologist to the local public health department. In Guatemala, the only centre, apart from South-West Mexico, in which the disease occurs in the Western Hemisphere, the areas of infection are confined to the Pacific or southern slopes of the volcanic ranges lying between the mountains and the southern coastal plain. On these slopes are extensive coffee plantations, and it is among the labourers and other employees there that the disease, which is clinically indistinguishable from that in other parts of the world, is so prevalent. The country is densely wooded and well supplied with lakes and rapidly flowing streams that afford ideal breeding places for Simulidae, which have been found to be the commonest blood-sucking insects in these regions. Three species of *Simulium*, which abound in the coffee-growing districts, have been proved to be concerned in transmission of the disease. Another important result of the expedition has been the final decision, after the careful examination of numerous adult filariae removed from the tumours, that the Central American form does not differ in any way from the long-known type from the Old World, a conclusion which means that the name *O. caecutiens* is merely a synonym of *O. volvulus*. In connexion with this part of the work, the whole genus *Onchocerca* has been re-examined in the light of recent discoveries, and descriptions of the various species which occur in man and animals and of their synonymy are given in the report.

A chapter devoted to the study of the species of *Simulium* deals with the differentiation of these insects, their breeding habits, bionomics, and distribution. During the course of the survey work it soon became evident that though of frequent occurrence in some places, the disease was absent or present to a slight extent only in others, where conditions were entirely favourable to its existence. It seemed clear that the immunity of such areas was merely the result of the absence of cases suitable for infecting the simulium, and that the introduction of these would be followed by the establishment of the disease as had occurred in other districts. From the public health point of view it was clearly imperative to prevent the entry into these areas of cases of the disease. Furthermore, as the removal of the tumours means the removal of the adult filariae and the disappearance sooner or later from the skin of the embryos which have migrated from the tumours, the treated cases cease to be sources of infection to the flies. The treatment of as many cases as possible in any locality should be followed by a reduced incidence of the disease. Other prophylactic measures suggested involve attacks upon the aquatic stages of development of the flies, and consist in oiling the streams and other similar procedures. It is concluded that there appears to be no reason why the careful application of the various methods of prevention should not be followed by complete eradication of the disease, which, quite apart from the serious ocular manifestations, is the cause of considerable inconvenience and disability. The clinical features and pathology of the condition are fully described and illustrated in the report, while special attention is given to the ocular complications and the changes brought about by the migration of the embryos into the tissues of the eye. In addition to the consideration of the disease itself Professor Strong's report supplies many valuable facts about the country and its climate, describing the mode of life and habits of its people, two-thirds of whom are native Indians, the others being a mixture of Latins, half-castes, and nondescripts. The report is a most interesting production, well worth perusal for the general information it gives about the country, quite apart from its main theme, onchocerciasis, upon which it is a comprehensive treatise.

[1] *Onchocerciasis. With Special Reference to the Central American Form of the Disease.* By Richard P. Strong, M.D., Jack H. Sandground, D.Sc., Joseph C. Bequaert, Ph.D., and Miguel Munoz Ochoa, M.D. London: H. Milford, Oxford University Press. (21s. net.)

SHAKESPEARE AND MENTAL PATHOLOGY

We opened Dr. André Adnès's book on Shakespeare and mental pathology[1] with keen anticipation, but we closed it with a certain sense of disappointment, interesting though it undoubtedly is. One-third of the contents is devoted to tracing the history of the views held on mental pathology from Hippocrates to the Renaissance, with the object of expounding the theories current in Shakespeare's days. But now it is not so important to us to know that, speaking the language of his time, as indeed he was bound to do, he places the seat of intelligence in the pia mater. What is of vastly greater interest is to see what light Shakespeare's profound knowledge of human nature throws on the psychological problems of to-day. To which the author may fairly retort that this is not what he set out to do. And what Dr. Adnès set out to do is well done. He shows how well acquainted Shakespeare was with the medical science of his day, and speculates as to the sources of his learning. He surmises that the scanty asylum accommodation then available permitted more insane persons to move about in the world and thus to fall under Shakespeare's shrewd observation. He stresses the accuracy of that observation. We might comment on that part of his theme by calling attention to the descriptions of Fröhlich's syndrome, achondroplasia, and fugues by Charles Dickens before

[1] *Shakespeare et la Pathologie Mentale.* By Dr. André Adnès. Paris: Librairie Maloine. (40 fr.)

they had been really recognized by the medical profession. How much of Gull's almost uncanny clinical insight was of that order? Dr. Adnès's classification of Antonio as a manic-depressive, Ophelia as a case of hebephrenic dementia praecox, King Lear as one of senile dementia, Juliet's nurse as an instance of mental and moral deterioration from chronic alcoholism, are among some of his interesting topics. Frantic jealousy on the slightest provocation or on none is a common theme with Shakespeare and one with which the present day feels out of touch, but it is helpful to have it pointed out that Othello's violent, almost automatic, acts followed an epileptic seizure. Chapters on insanity as portrayed by other Elizabethan dramatists, on the sources of Shakespeare's plays, on the sonnets (where alone, Dr. Adnès maintains, Shakespeare reveals himself), conclude the book, and a wide bibliography forms the appendix.

Until the evidence was thus massed together we hardly realized how interested Shakespeare was in mental pathology. If we owe such a debt of gratitude to Dr. Adnès, why should we confess to any disappointment? It is perhaps a compliment to him to say that it is because we feel he could have carried it further. It is the hall-mark of genius that its outpourings mean different things to different ages. Probably the paintings of Titian and El Greco mean something different to us from what they meant to their contemporaries. But of no one is it so true as of Shakespeare that every age has found something fresh in him. In that sense Ben Jonson's immortal epitaph on him is truer than even rare Ben himself could know. All ages are ages of transition, but it is specially true of Shakespeare's time and of ours. The Renaissance set men free from moral and religious codes which had bound them for centuries. They felt that they could reap where they had not sown. And then, as Wyndham Lewis so penetratingly shows in *The Lion and the Fox*, the subtle awakened intellects of the day appreciated the advantage of brain over brawn and proceeded to take toll of the simple "hearties." But the reign of the Machiavellis was not for long. Morality would keep breaking through. And over this line of cleavage Shakespeare brooded. His Richard II is the weak, aesthetic intellectual faced by a world of bullies. But Hamlet, of course, is the outstanding picture of the new intellectual facing a world that believes in action. He knew that by the prevalent canons of good form he should kill his uncle; his reality principle told him how futile such a vendetta was. He knew that Polonius was merely stuck all over with conventional labels, while he himself questioned all conventions. Faced with such conflicts, small wonder that he became a psychoneurotic who feigned a psychosis as a defence reaction. The parallels with conditions to-day need no elaboration. Again religious and moral shackles are being broken, and every convention questioned. Poor Polonius is gasping behind the arras, and our Hamlets are without a guiding star. But we lack a Shakespeare.

MESENTERIC LYMPHADENITIS

Although enlargement of the lymphatic glands of the mesentery has been long recognized as a condition giving rise to symptoms, the resulting clinical picture has not been widely appreciated. C. H. Mead[1] in the course of an investigation into the size of normal mesenteric lymph glands in childhood, has analysed much of the literature concerning both the tuberculous and the simple varieties of the disorder. In both the clinical picture is similar. Commonest in the periods of infancy and childhood, though not infrequent among young adults, the affected glands give rise to an acute and a more chronic series of symptoms. In the acute type there is a sudden onset of severe, cramp-like abdominal pain, followed by nausea and vomiting. The pain may be generalized or felt more acutely in the epigastrium, gradually becoming localized in the right iliac fossa. The attacks occur in paroxysms from two to five times a day, and last from five minutes to two hours. Patients with the more chronic form complain of vague transient attacks of colickly abdominal pain or of a sensation of "dragging" or "drawing" in the abdomen. There is often a history of indefinite gastric distress associated with nausea and vomiting. In the acute type constipation or diarrhoea may occur, but not usually in the chronic form. Clearly the picture resembles that of appendicitis, but physical examination shows that, although there are abdominal tenderness and spasm and rigidity of the muscles over the tender area, these are localized not strictly to McBurney's point but above this level, just to the right of the umbilicus. The temperature and pulse rate are raised, and the general appearance indicates more systemic disturbance than the local abdominal findings suggest. In tuberculous cases, more commonly than in the simple type, a mass may be felt in the right iliac fossa. *X*-ray examination is valuable in the chronic variety, as calcified glands may be revealed, and here also the tuberculin reaction is of service. In the acute type laparotomy is always indicated, and while surgical opinion seems to be divided on whether or not any attempt should be made to remove affected glands, it is agreed that simple exploration alone appears to give benefit. Removal of the appendix seems to be advisable, whether it is obviously diseased or not. The use of *x*-ray or radium therapy for tuberculous mesenteric glands has been advocated, following the success obtained in selected cases of tuberculous glands in the neck, but it has not yet been much employed. Clearly, as Mead points out, there are many problems in the disorder which still require solution. The origin of the pain is difficult to explain: it may be due to involvement of the peritoneum over the glands or to irregular intestinal peristalsis. Mead approached another aspect of the problem in his paper, for he is concerned with the number and size of glands in the mesentery which can be regarded as normal, and he attempted to determine this in children dying of accidents or where there was no disorder of the reticulo-endothelial system. He concluded that there is a fairly steady increase in the weight of the mesenteric lymphatic glands with advancing age and development of the body.

[1] *Arch. of Surg.*, March, 1935, xxx, 492.

THE CAMPAIGN AGAINST DANGEROUS DRUGS IN EGYPT

T. W. Russell Pasha, the director of the Egyptian Narcotics Bureau and commandant of the Cairo Police, in his sixth annual report, relates the continuance of his activities in rooting out traffickers in dangerous drugs, checking imports, and rounding up dealers in contraband at the ports and in the interior of the country. The vigilance of the last five years has effected a considerable improvement in the number of drug addicts in Egypt. A source of anxiety, however, is the several thousand convicted traffickers who have been safely put away for some years and who, on the completion of their sentences, are again let loose upon the country. Appeal is made to the Government to exclude the Narcotics Bureau from the general budget economy campaign which is being waged, lest the good work of the last five years should be undone and Egypt again become "a nation of addicts." The report sets out in detail numerous seizures of illicit opium, heroin, and hashish, often most ingeniously concealed. Hashish has for years been largely used in Egypt, but Russell Pasha is satisfied that it is to-day a definite menace to the energy and virility of the people. It is often purveyed in the form of manzoul and maagoun, mixed with spices and seeds, and retailed at popular prices. In a chapter entitled "A New Plague in Egypt" Russell Pasha relates that "black tea" drinking is taking the place of heroin and hashish as a narcotic, with disastrous results to the fellahin. Tea drinking was not common in Egypt before the war, but the new practice consists in boiling and reboiling the leaves until a heavy brown bitter mixture results. It is said to possess narcotic and aphrodisiac properties, to upset the intestinal tract, and to give rise to nervous and toxic symptoms. The report is, as in previous years, illustrated, and is replete with statistical tables and graphs.

RESEARCH ON NUTRITION

Current Science is a monthly journal published in Bangalore at the Indian Institute of Science. In format and arrangement it bears a strong likeness to *Nature*. The April number includes two fine tributes to Major-General Sir Robert McCarrison on his retirement from the Indian Medical Service. One is an account by Lieut.-Colonel A. D. Stewart of McCarrison's work in India, with special emphasis on the more important and striking contributions he has made to medical science in the past thirty-three years, beginning with Chitral fever in 1902, and leading on through his investigation of endemic goitre and cretinism to the wider problems of diet and vitamin deficiency in the animal organism. The other article is a long and thoughtful leader on nutrition in India, with particular reference to McCarrison's researches on the thyroid gland in health and disease, which "opened a new and fruitful field of inquiry into the science of nutrition." For various reasons, climatic and economic and religious, the problem of food has a deeper significance for Indians than for perhaps any other nation. It is also extremely complex. An authoritative body of physiological and sociological knowledge is needed to determine what food the poorer classes of India should buy in order to get the greatest nutritive value out of a given amount of money each week. "The scientists have to deal not with the food which an ample purse can buy, but with that for which people have to rake and scrape and count every pie they spend and then not have enough to go round. . . . It may be that nobody in India actually starves in the broad sense of the term, but many Indians live and must live on diets that are an outrage to the known needs of the human organism." McCarrison, by his work at Kasauli and Coonoor, has made invaluable contributions to our knowledge of the role of nutrition in preventive medicine, and in so doing he has thrown much light upon the deficiency diseases and the effect of faulty and ill-balanced diets in reducing the resistance of the body to infection. But, as he knows well, there is a great deal still to be discovered, and far-sighted administrative measures are called for to apply the lessons of science to the problem of feeding India. "Nutrition experts," we quote from *Current Science* again, "have to devise a dietetic plan for poor people which would enable them to secure the full nutritive value out of the foods they can buy, and which will keep them in health and reasonable comfort. . . . If the whole nation is to be fit and vigorous, then it is clear that food is the starting-point." This question of feeding for national efficiency is of great importance in Britain too, and the British Medical Association has shown itself alive to the needs of the day by setting up a Committee on Nutrition in 1933, and by organizing a Section of Nutrition and Dietetics for the Oxford Meeting in 1936.

THE LAURENCE-MOON-BIEDL SYNDROME

It was some time before the bizarre combination of obesity, hypogenitalism, mental retardation, polydactyly, and retinal pigmentation was fully recognized as a familial syndrome. All the components of the syndrome except for polydactyly had been described as far back as 1866 by J. Z. Laurence and R. C. Moon. Polydactyly as an integral part of the syndrome gained only slow recognition; its association with retinitis pigmentosa has been known for well over half a century, but the observers who drew attention to this association missed the other components of the syndrome. The full complement did not emerge until Biedl described it in 1922. In the meantime, not only had ophthalmologists reported the concurrence of retinitis pigmentosa with polydactyly, but endocrinologists had pointed out the association of the Fröhlich syndrome with retinitis pigmentosa and mental deficiency. It is also of interest to note that in 1907 one observer, A. Gordon, reported the complete syndrome, but missed its significance and gave an account of his cases as examples of the late Tay-Sachs disease.

During these years of piecemeal observation the classical paper by Laurence and Moon was completely overlooked. It was unearthed by Solis-Cohen and Weiss in 1925,[1] and it is due to them that this strange combination of disorders now passes under the name of the Laurence-Biedl syndrome. This tribute to Laurence resurrects a brilliant but neglected figure of Victorian ophthalmology—founder of the Royal Eye

[1] *Amer. Journ. Med. Sci.*, 1925, clxix, 489.

Hospital and founder and editor of the *Ophthalmic Review*, the first English journal devoted to ophthalmology. In an article on the syndrome by E. A. Cockayne, David Krestin, and Arnold Sorsby,[2] the literature on the subject is exhaustively surveyed and analysed. It would appear that during the past ten years about thirty isolated cases of the syndrome have been reported, in addition to fifteen familial groups; a hundred and eight cases are discussed in this paper, which includes two new familial groups. Of particular interest is a family group which showed fundus changes typical of cerebro-macular degeneration instead of the more usual appearances suggestive of atypical retinitis pigmentosa. The question is raised whether there is any relation between cerebro-macular degeneration and the Laurence-Biedl syndrome. The authors point out that though the conditions are indistinguishable ophthalmoscopically, other features militate against regarding them as one entity. Neurologically the Laurence-Beidl syndrome is uneventful, while cerebro-macular degeneration runs a fairly rapidly fatal course. Moreover, while genetically both conditions are recessives, a difference appears in the sex incidence; there is a considerable excess of males with the syndrome, but no real excess of males in cases of cerebro-macular degeneration. As to the pathology of the condition nothing definite can be said, since no case has come to post-mortem examination. The difficulty of linking up disturbances of both ectodermal and mesodermal origin is real, and a suggestion made by the authors that they represent a double mutation of ancient origin is probably not the last word on this subject. It is conceivable that this double mutation may have occurred independently time and again owing to chromosome linkage.

ENDEMIC SYPHILIS IN ASIA MINOR

In the issue of *Forschungen und Fortschritte* for May 10th Professor Ernst von Düring of Frankfurt University contributes an instructive article on this subject, based on his experience as professor of syphilography at the Constantinople Medical School from 1889 to 1902 and as Inspector-General of the north-western provinces of Asia Minor from 1896. According to von Düring, syphilis as seen in Asia Minor showed the following striking differences from that observed in Europe. In the first place it was only exceptionally transmitted by sexual intercourse, but was an endemic disease, conveyed by extragenital infection. Primary lesions were extremely rarely seen, and secondary manifestations were almost confined to children, while tertiary lesions, especially of an early kind, were chiefly found in adults. Barely a third of the patients were in the secondary stage, two-thirds being examples of tertiary syphilis. The latter presented the form and extent and severity resembling syphilis seen in the sixteenth century; the disease had often been in existence for several years and was manifested by destruction of the nasal bones, perforation of the palate, destruction of large portions of the skin, and gummatous syphilides involving the whole cutaneous surface, with severe bone and joint lesions. As in North Africa, and especially in Morocco, there was not a single example of tabes and general paralysis among the 80,000 cases of syphilis which came under the author's notice. It was noteworthy that the larger the population the rarer was the disease, whereas in villages as many as 100 per cent. of the inhabitants might be affected. Although congenital syphilis was rare, infantile mortality was extremely high in the infected villages; women who had borne eight or ten children had not one left alive. Von Düring attributes these peculiarities of endemic syphilis to the fact that the disease was not introduced into Asia Minor until 1829, by the Russian troops in the war for Greek independence, so that the disease showed the same malignancy as it did in Europe at the beginning of the sixteenth century, when it attacked a virgin soil.

[2] *Quart. Journ. Med.*, 1935, iv, 93.

THE PRISON POPULATION

The number of prisoners received in 1933 was less by 3,000 odd than in the preceding year, and nearly all the comparative figures in the report of the Commissioners for Prisons for the year 1933[1] show an equally reassuring drop in the number of persons in prison. One of the chief decreases was 1,636 in the committals by civil process. The large number of persons imprisoned every year under the heading of "non-criminal prisoners" is one of the major scandals of the country. The class includes debtors, persons who have failed to pay rates, maintenance for their wives and children, or income tax, and persons in contempt of court. The total of these in prison in the year under review was slightly over 12,000, about a quarter of the total number in prison for all causes. All those concerned with the improvement of the penal system are agreed on the necessity for devising means of reducing this deplorable total. Although the report contains statistics for 1933 only, it dwells on most of the important events of 1934. The employment of prisoners in various industries has been extended, and the results of daily physical training have been beneficial from every point of view. A newspaper known as the *Weekly News* is now printed at Maidstone and circulated to some 5,000 prisoners all over the country. Dr. Norwood East makes some interesting remarks, in his medical report, on the ascertainment of the mental state of prisoners. Justices, he says, from time to time ask prison medical officers to report on the mental state of a convicted person, and he points out that no prison official is authorized to submit such a report to anyone but the prison authorities. These reports seem to be asked for chiefly with a view to using the information if the prisoner is brought up again for some other offence. As Dr. East rightly says, it is essential that a medical report, to be of any value, should be up to date, and only a report made at the time of the new appearance of the prisoner can have any value. He urges justices to make further efforts to ascertain whether accused persons are suffering from mental disease or deficiency. Although the tendency is growing to use mental clinics in order to ascertain mental unsoundness in prisoners

[1] H.M. Stationery Office. 1935. Cmd. 4872. (1s. 6d. net.)

charged with minor offences, he considers that where a remand to prison is justifiable the facilities for diagnosis in a prison ward are likely to be more effective than an occasional visit to a clinic. A procedure for which he has no good word to say is a mental examination at the police court. As for the temperamental and disorderly prisoner who projects his own failures and maladjustments on to the prison staff, and claims that his imprisonment has affected his mental state, Dr. East remarks that the man's own mental constitution is far more likely than his environment to be the predisposing cause of his distress.

PHARMACY AND POISONS ACT, 1933

A notice issued from the Home Office, dated June 18th, states that the Home Secretary proposes, after the expiration of forty days from this date, to make Rules under Section 23 of the Pharmacy and Poisons Act, 1933, with respect to the matters and for the purposes specified in that section. It is intended that the rules shall come into force on May 1st, 1936, the date on which the relevant sections of the Pharmacy and Poisons Act, 1933, will come into operation, and from that date the various existing statutory provisions and regulations relating to the sale, supply, storage, and transport of poisons will be repealed. Notice is also given that the Home Secretary proposes, after the expiration of forty days: (1) to confirm the Poisons List, being the list of the substances which are to be treated as poisons for the purposes of the Pharmacy and Poisons Act, 1933, prepared and submitted to him by the Poisons Board for his approval; and (2) to make an Order in pursuance of Section 20 (4) of the Act approving, for the purposes of that section, any hospital, infirmary, or dispensary maintained by any public authority or out of any public funds or by a charity or by voluntary subscriptions. Copies of the Poisons List and Rules (of which a summary appears at page 1269) may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, or 120 George Street, Edinburgh 2, or through any bookseller (price 1s.).

THE AGED AND THE DYING

Three lectures on "The Care of the Aged," "The Care of the Dying," and "The Care of the Dead," by Alfred Worcester, professor of hygiene in Harvard University, have been published as a small book.[1] They were given to medical students, and have all been printed previously in one form or other. We are not surprised that reprints are exhausted and that there is still a demand for them. In their present combined form, handy and well printed, they will doubtless not only satisfy this need but reach an even wider circle of readers. They give to the student and young medical practitioner guidance on matters that they have not been taught, and have not had much opportunity to learn by experience, which will prove very useful in the early years of practice. Older practitioners, too, may gather from them hints for which they may from time to time be thankful. In his earliest paragraphs Dr. Worcester speaks of "senescence as a speciality." No doubt there is room for further investigation of the physical changes that take place in the last years of a life of normal span or longer; and no doubt also a careful study of the mental attitudes and processes of the very old, or even of the dying at any age, is useful and profitable; but these things do not require the devotion of a lifetime in themselves, and every experienced practitioner is able to evolve for himself a line of conduct in such cases, which is the main requirement. To those who have not yet this experience Dr. Worcester's little book will be quite helpful, as much in advising them what not to do, what to leave alone, as in directing them to more active procedures. "I maintain," says the author, "that a young physician's fitness can be gauged by the reaction of his aged patients as it is evoked in his care of them. No surer measure can be had of his tact and courtesy, of his sympathy and devotion." It is rather strange that the actual care of the dying has received so little attention in the doctor's training. The last administrations are left almost entirely to the nurse, and even she perhaps has not been instructed in them quite sufficiently. It is often within the power of doctor and nurse to ease the last hours, or last minutes, of patients to a greater extent than many are aware. Dr. Worcester deserves thanks for bringing this matter into the foreground, and for his wise suggestions towards a more appropriate and pervasive helpfulness.

[1] *The Care of the Aged, the Dying, and the Dead.* By Alfred Worcester, M.D., Sc.D. London: Baillière, Tindall and Cox. (4s. 6d.)

RECREATIVE PHYSICAL TRAINING

The Board of Education has announced the formation of a Central Council for Recreative Physical Training, a non-official body whose object will be the improvement of the physical and mental health of the community through the development of facilities for recreative physical activities. The Council, which has the patronage of the King and Queen, includes the following medical men and women: Lady Barrett, Sir Henry Brackenbury, Miss Anna Broman, Sir Farquhar Buzzard, Dame Janet Campbell, Dr. Veitch Clark, Sir Louis Greig, Lord Horder, Sir W. Arbuthnot Lane, Sir Walter Langdon-Brown, Lord Moynihan, and Sir George Newman, together with Professor Winifred Cullis. Temporary offices have been opened by the council at 11, Doughty Street, W.C.1, and all those interested in the welfare of the youth of the country are urged to give this national organization their active co-operation.

The Prince of Wales, president of the Westminster Hospital, will lay the foundation stone of the nurses' home, which will be the first wing of the new hospital, on Wednesday, June 26th, at 3 p.m.

The Morison Lectures will be delivered before the Royal College of Physicians of Edinburgh by Dr. T. A. Ross, F.R.C.P., in the Hall of the College, 9, Queen Street, on Monday, Wednesday, and Friday, June 24th, 26th, and 28th, at 5 p.m. His subject is: "The Teaching of the Neuroses to Medical Students."

TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some of the major medical disorders met with in general practice.

THYROTOXIC HEART DISEASE

BY

GEOFFREY BOURNE, M.D., F.R.C.P.

Cardiac symptoms, slight or severe, are present in every case of thyrotoxicosis ; indeed, cardiac complications constitute the gravest dangers of the disease. Before discussing the details of treatment, it will be helpful to describe briefly the manner in which the heart is affected.

Two main pathogenic factors are at work: persistent overdriving and toxaemia. The manner in which these produce their effects is briefly as follows. The hyperthyroidism, or dysthyroidism, results in symptoms of sympathetic stimulation, one manifestation of which is the increased basal metabolic rate. The tissues therefore need more oxygen, the circulation rate is much accelerated, and tachycardia is produced: ultimately some generalized cardiac hypertrophy also develops. At the same time the excessive or abnormal thyroid secretion has a toxic action on the heart muscle, and this becomes dilated to a greater or less extent and sooner or later shows signs of failure. A secondary effect of this toxaemia upon the heart muscle is an increased excitability, which is seen by a tendency to premature beats, auricular fibrillation, and, more rarely, auricular paroxysmal tachycardia or flutter.

The degree of failure varies greatly in different cases. It tends to be more severe in the secondary type of Graves's disease, or toxic adenoma of the thyroid, as it is sometimes called. But this is not always true, and no useful therapeutic purpose is served by regarding primary and secondary Graves's disease as two distinct entities. The fundamental basis of therapy is the same in both cases. The first step in successful treatment is careful evaluation of the degree of failure. In slight cases tachycardia is the only sign, and palpitation and dyspnoea the only symptoms present. In more severe cases the heart is enlarged, the degree of enlargement being proportional to the degree of failure. In the most severe cases auricular fibrillation is generally present. This irregularity is not only symptomatic ; it adds mechanically to the severity of the heart failure.

When the source of the thyrotoxicosis has been removed the cardiac insufficiency disappears in a remarkable way. The best means of removing the source of poisoning is a surgical operation. *X*-ray treatment is less satisfactory in severe cases owing to the greater difficulty of estimating exactly how much of the gland has been destroyed. In slight cases it is a valuable method of treatment. Should surgery be decided upon, the medical preparation of the patient becomes of the utmost importance. Only if this is seriously and carefully undertaken can the mechanical removal of the gland be carried out with the minimum of risk.

Outline of Treatment

From the medical or preparatory point of view the treatment of thyrotoxic heart disease falls under four main heads: these are, rest, diet, iodine, and, in cases with auricular fibrillation, digitalis. Treatment by all of these methods should be so synchronized that the optimum result to be expected from each will be obtained simultaneously. It is clear that relief to the patient will be at its maximum if treatment by each method can be so timed that its greatest effect will coincide with the greatest effect produced by each of the other three methods. The necessity for thus carefully planning the treatment will be clearly understood when it is remembered that treatment with iodine, if the usual full doses are given, leads to a marked improvement in patients with hyperthyroidism in about fourteen days ; and that after this time, although the drug be continued in the same dosage, a partial relapse occurs. On the other hand, rest and diet may have to be persisted in several weeks longer before full benefit is seen. Again, digitalis takes a variable time to yield its maximum effect. Therefore, the best results can only be got if iodine and digitalis are administered in such a way as to secure the most satisfactory therapeutic response at the time when rest and diet shall have done their utmost in improving the patient's condition. When this has been accomplished the patient is ready for thyroidectomy.

Rest in Bed.—This must be complete. The patient should be isolated from all domestic, financial, or business worries. A quiet room must be chosen, and visitors should be strictly limited in numbers. A bedside telephone is not permitted. To assist mental rest sedative drug treatment is wise in severe cases ; sodium luminal, 1/2 grain twice or three times a day during the stage of more severe nervous excitement, is probably the most efficacious. The services of a trained nurse are essential in all pre-operative cases. The patient should be kept strictly in bed during the whole course of medical treatment. The length of time which this requires averages about six weeks, but may vary between four weeks and three months.

Diet.—A high calorie value is essential, and the food should consist of normal solid meals. The calorie value of the daily diet should be between 3,000 and 3,500, and the patient should be encouraged to eat well. The meals should consist, as far as possible, of food which the patient is accustomed to, and should include in addition three pints of milk, taken as such, or in junket, cocoa, coffee, Horlick's, or ovaltine. Two ounces of cream and four to six ounces of lactose should also be added. The effect of the high calorie diet, together with the rest in bed, should be to enable the patient, first to make good the wastage caused by the increased basal metabolic rate, and, secondly, to put on weight.

Iodine Therapy.—Iodine should be prescribed with great care, particular notice being taken of its hardening effect on the thyroid gland. The maximal hardening of the gland can be obtained within a relatively short time (about fourteen days) if full doses of iodine are given, but when this point has been reached the drug appears to be without further avail, and the patient once more loses ground. Iodine, therefore, should be taken in smaller doses, which are enough to cause the gland to become fairly firm. It is kept in this state until the general condition of the patient has sufficiently improved to warrant operation. Three or four days before the date fixed upon for thyroidectomy full doses of iodine are administered. The dose at the beginning of treatment is 2 to 5 minims of Lugol's solution three times a day in milk. As soon as the gland starts to become

somewhat firm the dose is reduced to 1 to 2 minims twice or three times a day, enough being given in any particular case to keep the gland firm and elastic, but not hard. This dose is persisted with until three to five days before operation, when it is increased to 10 minims three times daily after food. In primary Graves's disease (primary toxic goitre) the true consistency of the gland is readily determinable. In secondary toxic goitre (toxic adenoma of the thyroid), where hard nodules exist already in the gland, palpatory information is not so easy to assess ; in these cases attention should be directed to the feel of the gland away from the hard adenomatous areas.

Digitalis Therapy.—Digitalis is useful only in cases with auricular fibrillation. Employment of this drug in cases of thyrotoxic tachycardia with normal rhythm is a waste of time. This statement applies to all preparations of digitalis and strophanthus, both pharmacopoeial and proprietary. In the presence of auricular fibrillation digitalis may be used. The best results are obtained from it when oedema of the feet and other signs of severe congestive failure are present. In cases not thus complicated it will probably be found that rest, diet, and iodine, as described above, will slow the heart rate more than will digitalis. Patients with normal rhythm need no digitalis. Patients with fibrillation of the auricles but with no signs of failure should be given 40 minims of tinct. digitalis or 4 grains of digitalis folia (B.D.H.) a day for three days before operation. Patients with auricular fibrillation and signs of congestive failure should receive 40 to 60 minims of tinct. digitalis, or 4 to 6 grains of digitalis folia a day for four to six days at the commencement of the period of medical treatment. If symptoms of anorexia or nausea appear, the dose is reduced to 30 minims or 3 grains a day ; in the absence of such symptoms of overdose the drug is continued in the larger doses as long as signs of failure persist. When the degree of heart failure is especially severe the following measures may be undertaken. Digitalis should be pushed if auricular fibrillation is present. When severe and protracted attacks of vomiting complicate the heart failure the drug may be administered per rectum in the form of the tincture. In previously untreated cases and as an emergency measure 3 drachms in 4 ounces of water may be injected per rectum, three such doses being given at four-hourly intervals. A maintenance dose would be 1 drachm in water twice or three times a day.

Thyroidectomy.—The medical treatment outlined above will lead in most cases to a diminution in the signs of hyperthyroidism, an increase in weight, and a fall in the pulse rate. So long as improvement, as judged by these criteria, continues medical treatment should be persisted in. When the improvement becomes considerably less rapid, or when it appears that further improvement is not to be obtained by these measures, surgery should be considered, and is in most cases necessary. Thyroidectomy is contraindicated, as a rule, if weight is being continually lost, if the heart rate is above 120, and if there are signs of gross failure. Exceptions to these rules are met with, but judgement as to the safety of operation in them is a skilled matter, and the risk is increased. Should severe symptoms persist ligation of the thyroid arteries should be carried out preliminary to thyroidectomy.

Post-operative Failure

Post-operative acute failure is to be treated by the following measures.

1. Continuous oxygen administration, by oxygen tent or nasal catheter.

2. Continuous administration, per rectum or intravenously, of saline containing 5 per cent. glucose.

3. Sugar should also be taken by mouth, and insulin in the proportion of one unit for every 2 grams of sugar ingested should be injected intramuscularly.

4. Sodium iodide, 20 to 40 grains in 10 c.cm. of sterile water, should be given intravenously twice daily.

5. Lugol's iodine should be prescribed in milk in doses of 30 minims four-hourly, or per rectum in doses of 1 drachm four-hourly.

Treatment of Auricular Fibrillation

A high percentage of those who before operation had auricular fibrillation lose the irregularity spontaneously after thyroidectomy. Should this not occur within three or four weeks it is desirable to restore the normal rhythm by means of quinidine sulphate. This drug is avoided by many practitioners because its use has occasionally been followed by a fatal accident. The same result follows many simple surgical operations and in about the same percentage of cases ; the risk involved should be made clear to the patient or the relatives. The second point to be remembered is that quinidine produces a definitely depressant action on nearly all cardiac functions ; therefore a patient who is being treated with it must be nursed flat, as though suffering from a myocarditis ; he must be fed and washed, must not sit up, and, *a fortiori*, must never be allowed to get up out of bed. Thirdly, it must be remembered that the drug is excreted very rapidly, and that doses should be given two-hourly if a reasonably constant quantity is to remain in solution in the blood stream. Better results are obtained if this is done. My usual routine is as follows:

1. Digitalis is prescribed in reasonably full doses for fourteen days, the amount being 45 minims of the tincture a day, or 4 grains of the folia. Previous digitalization improves the therapeutic effect of quinidine.

2. For the first day of quinidine treatment 1 grain of quinidine sulphate is taken three times a day to eliminate the possibility of the patient's having a quinine idiosyncrasy.

3. For the second day quinidine sulphate is given in 2-grain doses two-hourly for eight doses.

4. For the third day the dose is 3 grains two-hourly, and for the fourth and fifth days 4 grains and 5 grains respectively are administered two-hourly for eight doses. The drug is prescribed thus:

℞ Quinidin. sulph. ... ... gr. ij
Acid. sulph. dil. ... ... ♏ xv
Aq. chlorof. ... ... ad ℥ ss

(The sulphuric acid dissolves the otherwise somewhat insoluble drug.)

If 30 to 40 grains of quinidine have not produced the desired effect, it is wiser to desist, unless the physician has seen a sufficient number of cases to feel confident that a further increase in dose in the particular case is a safe measure. Signs indicating that a cessation of quinidine treatment is desirable are buzzing in the ears and deafness ; feelings of faintness or dizziness ; any considerable rise in the ventricular rate.

No case of thyrotoxic heart disease with auricular fibrillation should be under the care of a nurse who cannot accurately count the heart rate at the apex with a stethoscope. If the heart rates recorded on the chart cannot be relied upon by the physician, he is not in a position to estimate with full accuracy the clinical position. This is equally true whether he is treating the auricular fibrillation with digitalis or with quinidine.

Prognosis

After thyroidectomy the cardiac insufficiency disappears in most cases in a remarkable manner. It is my experience that the prognosis depends upon whether any disease additional to the thyrotoxicosis, such as rheumatism or arteriosclerosis, has affected the heart. In a careful follow-up at St. Bartholomew's Hospital,[1] it was found

[1] Bach, F., and Bourne, G.: *Quart. Journ. Med.*, 1932, xxv, 579.

that the cases fell into two groups—namely, those who still had evidence of heart disease, although the hyperthyroidism had been cured by thyroidectomy ; and those with normal hearts. In the former group nearly every case had evidence of rheumatic or arteriosclerotic heart disease. In the latter group no evidence of heart disease was discovered. It would seem that the permanence of any cardiac incapacity after hyperthyroidism and thyroidectomy depends, more than on any other factor, on whether the patient's heart has been previously diseased. Thyrotoxicosis may accentuate and may perpetuate the effects of rheumatic or degenerative cardiac disease, but it leaves a previously healthy heart in a normal condition.

Another abnormality which tends to follow thyrotoxicosis is hyperpiesis. This is not present in all patients who have suffered and recovered from Graves's disease, but the incidence is certainly higher than normal in these cases. The condition may result either directly from the thyrotoxaemia or from the wear and tear produced by the long period of increased basal metabolic rate. It is my opinion that the latter is the more probable hypothesis, and that the thyrotoxicosis accelerates the onset of a condition which would in any event have occurred later on.

Nova et Vetera

HISTORY OF CANCER OF THE BREAST

Sir D'Arcy Power tells us that when he was asked to deliver the sixteenth William Mitchell Banks Memorial Lecture at the University of Liverpool,[1] he had little hesitation in choosing a subject, for, although Banks was interested in most surgical topics, his work on the operative treatment of cancer of the female breast stands forth pre-eminent among all his surgical studies.

Sir D'Arcy Power traced the history of cancer of the mamma and its treatment from the earliest records of surgical procedure. In this, as in so much else, we first find something approaching firm ground from which to make a survey in the works of Galen. To the ancient and mediaeval surgeon the term " cancer " was clearly associated with the existence of an open and spreading sore, and malignant disease affecting the female breast, but not yet involving the skin, was scarcely recognized as cancer. For many years attempts to cure by means of caustics were the only means in vogue with reputable practitioners and quacks. When, after horrible and prolonged suffering, the superficial portions of a cancerous mass exfoliated, hopes of cure were entertained, to be all too soon followed by recurrence and, if the patient was fortunate, by speedy metastasis and death. Jean Louis Petit, director of the French Academy of Surgery and a Foreign Fellow of our Royal Society, who lived from 1674 to 1750, made a great advance in pathology and treatment, although his views were not published till twenty years after his death. To him Sir D'Arcy Power ascribes the credit of recognizing and acting on the principle that the " roots of a cancer were the enlarged lymphatic glands: that the glands should be looked for and removed and that the pectoral fascia and even some fibres of the muscle itself should be dissected away rather than leave any doubtful tissue. The mammary gland, too," he said, " should not be cut into during the operation."

It is tantalizing to read of such great strides forward as those of Petit and yet to find that he was not equally enlightened as to the true line of advance in some important respects. Some of his principles were to be entertained as new truths a century later by his spiritual heirs, while he was unfortunately so mistaken as to try and preserve the nipple and to avoid excision of skin. Petit's teaching was known outside France before his death and recommended in an English translation of Lorenz Heister's " Surgery."

[1] *Liverpool Medico-Chirurgical Journal*, 1934, xlii, 29.

The teaching of Benjamin Bell of Edinburgh showed a considerable advance in theory and practice. He taught that " when practitioners have an opportunity of removing a cancerous breast early, always embrace it." His teaching in other respects was advanced as to the treatment of glands and the parts adjacent, and he had a great and lasting influence upon British practice for many years.

If it may be conceded that the radical operation of amputation of the cancerous breast as at present practised is that devised by W. S. Halsted of Johns Hopkins University at Baltimore, U.S.A., it is equally necessary to give credit to those American surgeons who paved the way for the advance. Of these Pancoast and Samuel W. Gross, both of Philadelphia, were his precursors. American surgery, looking more to Germany than to the rest of Europe for surgical inspiration, had based itself on scientific pathology, and it was with the aid of such foundations and his own investigations and deductions that Halsted based his proceedings, culminating in an operation which was intended to remove all infected tissue with a wide margin. American surgeons were ready and eager to accept Halsted's teaching, while in Great Britain the response to new ideas was nugatory or at best slow.

In 1867 C. H. Moore of the Middlesex Hospital contributed a remarkable paper to the Royal Medical and Chirurgical Society of London. In this paper, as Sir D'Arcy Power says, is the germ of all the modern surgery in connexion with cancer of the breast, and it is noteworthy that among the cases cited in support of his thesis Moore describes the putting of a drainage tube through the back of the armpit—and this was in the year 1858. No report of this paper appeared in the *Lancet* or the *British Medical Journal*, but a short summary of the subsequent discussion was given in the *Medical Times and Gazette*. Its reception was distinctly unfavourable. None of the speakers can have realized the immense importance of Moore's contribution. He does not seem to have pressed the subject on his colleagues' attention.

The epoch-making paper of W. Mitchell Banks was read by him before the Lancashire and Cheshire Branch of the British Medical Association in 1877. It was entitled " A Plea for the More Free Removal of Cancerous Growths." It was reprinted from the Liverpool and Manchester Surgical Reports, which had a limited circulation locally ; but no notice of it appeared in the *British Medical Journal*, the *Lancet*, or the *Medical Times and Gazette*. Banks continued his attack on the subject in 1882 and 1883, basing his work almost exclusively on clinical observations, and not, like Halsted, on micropathology. In 1887 he read a paper in London before the Harveian Society on " Extirpation of the Axillary Glands, a Necessary Accompaniment of Removal of the Breast for Cancer." Halsted's first communication on the subject was made in the *Johns Hopkins Hospital Reports* for 1895. His work was original, and he evidently knew nothing of the work of Moore and Mitchell Banks.

Sir D'Arcy Power's paper is meant not to detract from Halsted's fame but to show that others, by different methods, had arrived before him at similar results.

The annual general meeting of the Union Thérapeutique will be held on Wednesday, October 9th, at the Faculté de Médecine de Paris. The subjects of discussion are: " Nos Connaissances Actuelles sur l'Hormone Mâle," by Professor A. Guy Laroche ; " La Chirurgie du Splanchnique dans l'Hypertension Artérielle," by Professor Ag. René Fontaine (Strasbourg) ; " Les Composés Antimoniaux en Thérapeutique," by M. J. la Barre (Brussels). In the afternoon: " L'Équilibre Physico-chimique et Glandulaire dans le Traitment des Spasmes Viscéraux," by Professor Pende (Genes) ; " Les Substances Spasmogènes et leurs Antagonisteus," by Professor Burgi (Berne) ; " La Médication Nerveuse Sédative des Spasmes," by Dr. J. Decourt ; " La Physiothérapie des Spasmes et des Algies Viscérales," by Dr. Delherm. Anyone wishing to attend the meeting should write direct to Dr. G. Leven, 24, Rue Téhéran, Paris (8e).

EFFICIENCY ON THE ROAD

THE EFFECT OF ALCOHOL

A largely attended meeting under the auspices of the National Temperance League was held at the London School of Hygiene and Tropical Medicine on June 14th, when addresses were given on the personal factor in road safety, bearing especially upon the influence of alcohol. The chair was taken by Sir MURRAY HYSLOP, and among those on the platform was Sir Thomas Barlow, who proposed a vote of thanks to the speakers.

Mr. RANSOM PICKARD, president of the Ophthalmological Section of the Royal Society of Medicine, spoke on the vision of the motorist. He described, first of all, the central and peripheral retina. In evolution, when the organism was subject to deleterious influences, the structures which had been evolved latest were the first to be damaged, but there was an exception to this in the retina, for although the capacity for central vision was of later development, the influence of alcohol was shown chiefly upon the peripheral retina, whereby moving objects were discerned. It had been shown in some work at the Carnegie Institute at Washington that while for the same very dilute amount of alcohol central vision was affected to something less than 2 per cent., peripheral vision might be affected up to 11 per cent. Alcohol also had been shown to prolong the reaction time, and if this was so in laboratory experiments, where the alternatives were narrowed, it was much more so in the street, where a complicated situation might demand a choice among many possibilities. Mr. Pickard added that he was not there to advocate total abstinence *per se*, although he was himself a total abstainer, but he thought the motorist would do well to abstain during driving and for some time before driving.

Mr. ARTHUR EVANS, surgeon, Westminster Hospital, dealt with the subject from the point of view of neuromuscular control and co-ordination. He described picturesquely the transmission of nerve impulses, likening it to a relay race, in which each set of runners handed over to another set at the synapses, so that the more complicated the mechanism the greater the time loss. The passage of nerve impulses upon the accustomed tracks was definitely affected by the intake of alcohol. Careful experiments under the auspices of the Medical Research Council had shown that an amount of alcohol roughly equivalent to a glass of beer had a marked effect on the passage of nerve impulses, increasing the resistance offered at the centres where the nerve units interlocked. In a careful test, in which precision in making a number of dots was called for, the taking of this small amount of alcohol had the effect of increasing the incidence of error by 21 per cent. Some experiments had also been made in Copenhagen, where it was shown that a pint and a half of ale prolonged the reaction time in a simple reaction by 9.7 per cent., and by correspondingly greater percentages in reactions more complicated. But it was also the subjective effect of alcohol which was of such great importance. A report by a special committee of the British Medical Association on tests for drunkenness had pointed out that the subjective effect of alcohol might be sufficient, without any objective symptoms, to make it unsafe for a person to be in a responsible position, as, for example, in charge of a mechanically propelled vehicle. The common subjective effect of taking alcohol, said Mr. Evans, was an impression that the test—the dotting, to take the example just given—was being carried through remarkably well, whereas in fact it was being carried through with a much greater incidence of error. The drawback and danger of alcohol was not merely that it resulted in impaired performance—in that respect it was the same as fatigue—but with it went a sense of increased satisfaction at the impaired performance. With even a little alcohol there was increased resistance at the synapses, resulting in increased reaction time and increased proneness to error. Alcohol impaired the function of self-criticism, the highest and latest developed of human functions. Self-satisfaction with a poor performance was certainly no preparation for driving a motor car in any place more crowded than the Sahara. If the person who took alcohol was aware that he was thereby less efficient, and accordingly took care to drive more slowly and cautiously, no particular harm might be done, but the mischievous effect of alcohol was to make him think while under its influence that he was a better driver, although his reaction time was slowed down, his senses were less alert, and his judgement more liable to be deflected. Alcohol must make for dangerous driving, and for dangerous pedestrianism also, for the person who crossed the road with a similarly impaired neuro-muscular equipment and a similar sense of extra cocksureness was certainly not contributing to the diminution of the casualty list.

VISUAL JUDGEMENTS

Mr. N. BISHOP HARMAN, consulting ophthalmic surgeon, West London Hospital, addressed the meeting on "Visual Judgements." Safe progression, he said, demanded that the sight should have a threefold quality: visual acuity, meaning ability to distinguish objects; field of vision, which enabled one to judge of one's position in regard to space or to other objects; and binocular vision, which made it possible to judge of the size and distance of objects, and of one's relation to them. For the purpose of his address Mr. Harman neglected the two first factors and confined himself to a discussion of binocular vision. It would be possible to bring evidence to show that both acuity and field of vision were affected adversely in toxic states, but the evidence for such affection upon binocular vision was more dramatic. He described experiments with prisms, which demonstrated that the judgement of the size and distance of objects was subject to conditions, some inherent in defects of the muscles of the individual, others arising from impaired health, fatigue, and toxic states. He stressed the lateness of the development of binocular vision, both in the scale of animal advance and in individual bodily growth, and, like other late developments in the race and the individual, it was easily upset in adverse conditions. Fatigue, or its toxic products, was disturbing to this delicate and complex function; illness, particularly febrile states, even more so, and that intoxication due to the influence of alcoholic drinks could disturb and upset binocular vision was a matter of common knowledge. Moreover, exposure to fatigue, to illness, or to drugs such as might not adversely affect a person with a perfect visual apparatus was likely to upset seriously and quickly the binocular vision of one in whom there was a latent defect. This had been proved by a most convincing series of investigations carried out by medical officers of the Royal Air Force. Finally, Mr. Harman drew a distinction between the disturbing effects of fatigue and ill-health on the one hand, and the toxic effect of alcohol on the other. The toxic effects of fatigue or ill-health were evident to the sufferer; in fatigue he sought rest, and in illness awaited recovery, and was little likely to undertake risky ventures, but with alcohol there was, on the contrary, a sense of well-being which masked or delayed the realization of incompetence. Such a sense engendered a false security, even a feeling of bravado, so that tasks such as motor-driving were undertaken which the depression of his visual judgement rendered dangerous both to himself and to others.

Mr. F. J. FIELD, an automobile engineer, also read a short paper, on efficient braking and on the personal factor in relation to safety. In spite of much educational propaganda, he said, many motorists had an obsession that the brakes of their cars were so good as to require no attention, and that they could stop from 30 m.p.h. in the length of the car. Actually to stop in a distance of 40 feet was a good performance, and it could not be reduced to 15 feet or less except by running into some obstacle. In discussing the personal factor Mr. Field said that the lag or lapse between observation and the action of applying the brakes varied from three-fifths of a second upwards, with one and one-fifth of a second a fair average. The significance of these very short intervals of time was not apparent until their effect was realized in actual braking performances. If a driver at 40 m.p.h. was required to

apply the brakes at a selected spot and not before, and his lag was three-fifths of a second, the car would cover 106 feet from the selected place before it stopped, whereas if his lag were one and one-fifth of a second he would travel 141 feet. If by any means the lag period could be reduced to no more than three-fifths of a second all round, accidents would be reduced substantially in number, as also the gravity of personal injuries and other damage.

BRITISH DENTAL ASSOCIATION

ANNUAL MEETING AT PLYMOUTH

The British Dental Association enjoyed the hospitality of the West Country for its annual meeting at Whitsuntide. The West Country, with all its admirable qualities, is sometimes thought of as slow, but nothing could have been more prompt than the manner in which a remark in the presidential address of Mr. S. D. Venning was acted upon. He mentioned the need for the encouragement of dental surgery in the provincial general hospitals, and deplored the fact that at Plymouth, with a population of over 200,000, not only was there no dental hospital, but no properly equipped dental department attached to any of the general hospitals where the necessitous poor could obtain gratuitous treatment. The same evening, at the annual dinner, Dr. H. G. Pinker, president of the Plymouth Medical Society, was able to announce that the board of management of the Prince of Wales's Hospital had unanimously agreed to start a dental department in the Greenbank Section.

SEDATIVES IN DENTISTRY

The professional discussions at the meeting included one on dental recording and accounting, and another on the non-metallic dental bases, in particular the new polymerized resin base known as "kallodent," sponsored by Imperial Chemical Industries. The principal discussion, in which a great amount of interest was taken, was on two papers, one by Mr. H. T. Roper-Hall of Birmingham, on the use of sedatives in dentistry, and the other by Dr. R. N. Craig of Exeter, on the psychology of the patient. Mr. Roper-Hall thought there was a place in routine dental practice for sedatives, but too many of these were offered, and if the dental surgeon confined himself to a select two or three he would have all that was necessary for practically every case. The salicylic preparations, and especially aspirin, were often very useful; the addition of bromide was effective in more tiresome cases, and smaller doses of phenacetin or phenazone or amidopyrine found their indication in cases where there were physical discomforts. The introduction of barbiturates had been a boon to medicine because of the exactitude of the dosage and the constancy of the effect. The number of patients with intolerance was very small, and he thought the ill effects had been exaggerated. All sedatives, of course, might cause habit: aspirin was rapidly becoming a habit drug. In cases of impacted teeth, small cysts, and the like it was his custom to give a tablet of allonal or other similar combined drug the previous evening, as well as one hour before the visit, and to work with regional anaesthesia. Dr. R. N. Craig described the intricate psychological reactions of the dental patient, and contented himself with a plea for more tolerance and understanding by the dental surgeon faced with apparently unreasonable behaviour.

The need for care in using the barbiturates was stressed by Mr. Lewin Payne, who said that the dosage for each individual must be carefully considered, also the conditions in which the drugs were definitely contraindicated. Mr. St. J. Steadman mentioned some of the difficulties of premedication. In giving allonal he never knew whether to give it one hour or three hours before the operation. If given earlier, its effect with some patients wore off before the operation was due; if given later, with other patients, its effect was not produced in time.

THE PSYCHOLOGY OF THE DENTAL PATIENT

A transatlantic freshness marked the talk of Mr. W. B. Amy of Toronto, who said that the most effective drug was the milk of human kindness, mixed with sufficient common sense to make it potent as well as pleasant to take. He satirized the lack of taste and harmony too often met with in the reception room, the unnecessary fearsomeness of the apparatus in the operation room, the occasional ill manners of the nurse, "which damn you before your patient gets a sight of you," and the, equally occasional, frowsy appearance of the dentist himself. All these things had an effect on the patient, especially a patient endeavouring to conceal apprehensiveness. Mr. Malcolm Knott spoke somewhat to the same effect, as did Mrs. Lindsay: it was more important than any drug, in their opinion, for the dental surgeon to "get his personality across" and impart to the patient something of his own confidence.

The value of evipan as an anaesthetic in dental operations was mentioned by Mr. John Bunyan. Some of the operations had lasted two hours, and he had never had a moment's anxiety, but it was important not to give a depressing sedative beforehand. Mr. A. E. Rowlett said that he never administered pre-anaesthetics, except the mildest, without getting into consultation with the patient's medical practitioner. Mr. Robert Bradlaw, from the point of view of one in charge of the dental department of a hospital for nervous diseases, described some common nervous conditions, including purposive hysterias, in which a supposed neuralgic pain masked the psychological difficulty. Dr. Humphrey Humphreys begged dentists to do nothing to encourage the practice of indiscriminate drug-taking, which was on the increase in the community. It was a good plan, with patients of a nervous type, if one was compelled to give drugs, to explain that the allonal, for example, was given in order to dry the saliva, and thus make the operation easier; the patient, feeling that the drug was given for a definitely dental purpose, was less likely to become an addict. Dr. R. N. Craig, in replying to the discussion, said that the "dental complex" was a very real thing. It was not always of purely nervous origin, but a certain minimum amount of pathological disturbance in the mouth might be the last straw.

The public dental officers held two group meetings during the conference, one of which was addressed by Dr. Peirson, medical officer of health, Plymouth, on dental treatment in relation to public health services. The president, Mr. S. D. Venning, also dealt with this subject in his address. The encroachment of the public dental services on private practice, he said, was more than balanced by the ever-increasing number of public posts open to the younger members of the profession. He prophesied that dentistry would presently take a greater part in the health services of the nation. The time was approaching when a national dental service would be provided, and the association had a scheme under consideration, with conditions of service set out, and a capitation basis of remuneration.

As usual a very large number of demonstrations of operative dentistry, oral surgery, prosthesis, and orthodontics were given.

The Berlin Academy of Medical Post-Graduate Instruction has arranged the following autumn courses: internal medicine from the standpoint of functional pathology and therapy, September 2nd to 14th; surgery of the intrathoracic diseases, September 2nd to 6th; tuberculosis, September 9th to 14th; infectious diseases, September 16th to 21st; diseases of the ear, nose, and throat, September 30th to October 12th; biology of heredity and racial purity in medical practice, October 7th to 12th; and general medicine, monthly courses with practical, clinical, and laboratory work. For more detailed programmes and information about fees and railway facilities application should be made to the Geschäftsstelle der Berliner Akademie für Arztliche Fortbildung, Robert Koch Platz 7, Berlin, N.W.7.

RESEARCH DEFENCE SOCIETY

STEPHEN PAGET MEMORIAL LECTURE

The annual meeting of the Research Defence Society was held on June 12th, under the chairmanship of Lord Lamington, when the ninth Stephen Paget Memorial Lecture was delivered by Sir Frederick Hobday, whose subject was "The Relief of Animal Suffering."

THE SCOPE OF VETERINARY MEDICINE

Sir Frederick Hobday began by outlining the scope of veterinary medicine. It was estimated that in this country, notwithstanding the immense increase in motor transport, there were still 930,000 horses. There was one dog to every fifteen of the population. Among farm animals, cattle numbered over six millions, sheep seventeen millions, and pigs two millions. The aggregate value of the farm animals of Great Britain was £150,000,000, and some £75,000,000 worth of meat and £60,000,000 worth of milk was produced annually. A highly trained veterinary service, therefore, was a national necessity.

He proceeded to summarize the course of study necessary for the diploma of the Royal College of Veterinary Surgeons. The matriculation examination was the same as for students in human medicine, and there followed a five-years course in a veterinary college, with an additional year if the student desired a university degree. The usual science subjects were followed by courses of study in physiology, anatomy, animal husbandry, pathology and bacteriology, biochemistry, meat and milk infections, jurisprudence, and veterinary medicine and surgery. Every student was required, before being allowed to enter for the final examinations, to produce evidence of having been in country practice where he had seen at least six cases of parturition in farm animals. The public as a whole did not realize the stringency of the examinations which had to be passed, nor did they realize the large amount of scientific laboratory research which had to be done in order to prevent epidemics alike in animals and man. Numerous diseases met with in veterinary and in medical practice were analogous, having a common origin, so that the research workers in both fields mutually assisted one another. He instanced tetanus, glanders, and anthrax in this connexion, and said that in respect of several diseases the veterinarian was guardian of the public health and must always occupy the front trench, because if a virus was eradicated from animals it was automatically eradicated from man. In dealing with epidemics, of course, workers in veterinary medicine could be more thoroughgoing than their colleagues in human medicine, because they could kill infected animals where this was thought necessary, and thus rigidly confine areas of infection within narrow limits. Even in tuberculosis—a subject which was now being seriously tackled from the side of tuberculous milk—the veterinary public health official and the sanitary inspector had already done much for the alleviation of human as well as of animal suffering.

RELIEF OF ANIMAL SUFFERING

Sir Frederick Hobday then proceeded to speak of the role of the veterinary surgeon in the relief of animal suffering. Humane killing of food animals owed its original impetus to the chief veterinary officer of the abattoir at Berne, and the present satisfactory way of stunning pigs by electricity was the invention of the chief veterinary official of the abattoir at Munich and an engineer of that city. The recent triumph over that scourge of the dog, distemper, was an instance of the good results of collaboration between scientists and field workers, for the work done by Laidlaw and Dunkin in the laboratories could not have reached its full practical value in the alleviation of canine suffering without the added research into the lives of these animals by workers who dealt with them under natural conditions. He next placed on the screen a number of lantern slides and cinematograph films illustrating ailments and accidents occurring commonly amongst animals and the measures applied for their relief. Incidentally he mentioned that the Royal Veterinary College had the best film library of the kind in the world. The cases shown included some remarkable feats by dogs, cows, and other animals in swallowing inconvenient and inedible articles.

A vote of thanks to Sir Frederick Hobday for his lecture was proposed by the Honourable Sir Arthur Stanley, chairman of the committee, and seconded by Professor A. V. Hill, F.R.S., vice-chairman.

THE PAST YEAR'S WORK

At the business meeting of the Society which followed, it was reported that the past year had been lacking in events of major importance so far as the Research Defence Society was concerned; there had been no anti-vivisection Bills before Parliament, but in the provincial press, on advertisement hoardings, and on transport vans there had been a noticeable increase in misleading advertisements, and whenever possible the Society had taken steps to bring these to the notice of the responsible authorities, pointing out the mischievous and sometimes dangerous nature of such propaganda, and in two important instances the protest had been successful. The Society had also endeavoured to counter the propaganda against the modern treatment and prevention of diphtheria.

Four vice-presidents of the Society have died during the year—namely, Sir John Rose Bradford, Sir Arthur Schuster, Lord Somerleyton, and Sir Edward Sharpey-Schafer. Major-General P. H. Henderson was made a vice-president, and Mr. Gray Clegg, who has been instrumental in forming a Manchester branch, a member of the committee.

England and Wales

Stanley Melville Memorial

A meeting of the subscribers to this memorial will be held at the British Institute of Radiology (32, Welbeck Street, London, W.1) on Thursday, October 17th, at 4 p.m., to consider and decide the form the memorial should take and the method of its administration. Friends of the late Stanley Melville are requested to send contributions before the date of the meeting to the general secretary at the British Institute of Radiology.

Harveian Society

The Buckston Browne dinner of the Harveian Society of London was held this year, by kind permission of the Court, at Merchant Taylors' Hall, on June 13th. Lord Palmer, the guest of the evening, in proposing "The Society," paid a brief and gracious tribute to the "magnificent services" rendered by the medical profession to the public. Presentations to the society were then made by Dr. Hope Gosse and Colonel Gowland. Dr. Gosse, who referred to the unfortunate accident which had occurred within a short time of his installation as president of the society in 1934, presented a bust, moulded and cast in bronze, of Sir Buckston Browne. Colonel Gowland, president in 1933, presented a copy, probably executed by Rembrandt himself, of "The Anatomy Lesson," and a walking-stick of malacca, which contained in its handle lancets, catheters, and a hypodermic syringe. In his reply, the president for 1935, Mr. L. E. C. Norbury, said there were now 400 members of the society: in 1831 there had only been ten. He hoped that the society would one day have a home of its own to house the presentations that had been made and a picture recently given to the society by Sir Buckston Browne, which depicted Harvey demonstrating the circulation of the blood to Charles I. After referring to the activities of the society in the past year, Mr. Norbury made an appeal for further funds for the Harvey Memorial Tower at Hempstead in Essex. The health of the visitors was proposed by Mr. A. E. Webb-Johnson, and responded to by the Dean of St. Paul's, Dr. J. O. Wakelin Barratt, and Sir Henry Curtis Bennett.

Industrial Health Education

A meeting in support of the Industrial Health Education Society was held at the London house of Lord Luke, its chairman, on June 12th, and was attended by the Duke of Kent. Lord Luke explained the objects of the society as the arrangement of talks on health, not in a general, but in a specific way, by medical and dental men and women. The talks bore, as far as possible, on the diseases and ailments to which the workers in a particular industry or locality were liable, and since 1925, when the society began its work, nearly 4,000 such health lectures had been given in all parts of the country. The Duke of Kent spoke in terms of high praise of this form of health propaganda, the effect of which during the last ten years, he said, must have been to impart among the industrial population such information as enabled them largely to prevent or at least to mitigate some of the common forms of sickness and disability to which they were liable. Lord Horder, honorary president of the society, said that the society carried out an essential work on very little money, thanks to a number of medical men who undertook the journeys and lectures, and to local workers who bore the cost of the meeting place and the local publicity. The grosser forms of occupational diseases prevalent twenty years ago were not those with which the society now had much to do. It was concerned largely with such conditions as rheumatism, dental sepsis, and the effect of want of ventilation and lack of cleanliness in lowering vitality and predisposing to disease. The accounts which were presented showed a deficit on the year of £286, a serious matter when the subscription revenue was only a little over £1,000. Lord Horder was able to announce to the meeting that a cheque for £100 from an anonymous donor had been received as a result of a talk he had had with a friend.

National Baby Week

The needs of the pre-school child will receive special emphasis during the nineteenth National Baby Week, which is to be held from July 1st to 7th. They will be the main subject for discussion at the Baby Week Conference, to be held at the London County Hall (and subsequently at the Queen Mary Hall, London, W.1) from July 1st to 3rd, at which Dr. G. F. McCleary will review existing measures for the health supervision of the pre-school child. Other speakers will discuss convalescent treatment, mental health, the early discovery of orthopaedic defects, and the care of the pre-school child as reflected in the findings at the first routine school medical inspection, and the cultivation of public opinion on this matter.

Hospital for Sick Children: Department of Immunology

The Board of Management of the Hospital for Sick Children, Great Ormond Street, has decided to institute a Department of Immunology, and in connexion therewith an out-patient clinic for children will be held on Thursday afternoons or possibly on Saturday mornings (so that children need not miss school), or on both days, if and when necessary. The clinic will undertake the skin-testing of children for diphtheria, scarlet fever, tuberculosis, hay fever, and other allergic conditions; the immunization (active and passive) against diphtheria, scarlet fever, and whooping-cough; the treatment of diphtheria carriers; and immunization against measles when convalescent serum is available. Patients for immunization will be asked to pay a small fee to cover the cost of material used. It will be remembered that in 1928, acting on the suggestion of the Ministry of Health, this hospital first prepared convalescent measles serum on a scale which made it possible to supply a considerable amount annually to institutions and private practitioners for the protection of their very young or very sick patients. Convalescent serum is of proved value in protecting contacts, and its preparation and use on a large scale is desirable. At present the sources of supply are very limited, and it will be impossible to continue to prepare the serum in sufficient quantities unless donors come forward in considerable numbers. Practitioners are therefore urged to persuade their adult patients who have had measles within the last few years to volunteer some of their blood for this purpose, and to come forward during non-epidemic periods, so as to avoid the rush which is bound to occur during epidemics. Volunteers are asked to apply to the Director of the Pathological Department, The Hospital for Sick Children, Great Ormond Street, London, W.C.1.

Scotland

Resignation of Glasgow Professors

Among the resignations of five professors in Glasgow University which were intimated at a meeting of Glasgow University Court on June 13th are those of Professor Thomas H. Bryce, of the chair of anatomy, Professor Andrew Hunter, of the chair of physiological chemistry, and Professor Peter Paterson of the St. Mungo chair of surgery. These resignations take effect from September 30th next. Professor Bryce has been for many years curator of the anatomical and archaeological collections in the Hunterian Museum, and it has been arranged that, while resigning from the chair, he is to continue in charge of the cultural collection in this museum. Professor Andrew Hunter came from the University of Toronto in 1929 to succeed Professor Cathcart in the Gardiner chair of physiological chemistry, and is now returning to Toronto. Professor Paterson has occupied the St. Mungo chair of surgery since 1924, and is now retiring at the end of his term of office. At the same meeting the University Court appointed to the chair of physiological chemistry Dr. George M. Wishart, who at present holds the post of lecturer in physiology. Professor Wishart is 39 years of age, and graduated B.Sc. with special distinction in physiology at Glasgow University in 1916, and M.B., Ch.B. in 1918. In 1918, after a period in the Royal Air Force Medical Service, he became assistant in the department of physiology at Glasgow University, and in 1921 was promoted to be Grieve lecturer in physiological chemistry.

Treatment of the Blind in Scotland

Speaking at the eighteenth annual conference of the Scottish National Federation for the Welfare of the Blind, held at Stirling, Mr. James Cormack, superintendent of the Edinburgh and South-East of Scotland Society for Teaching the Blind, said there was great lack of knowledge regarding the welfare of the blind, especially among local authorities of small and mainly rural areas. Forty-three per cent. of the blind were between the ages of 50 and 69, and a great benefit had been conferred upon such people by the Blind Persons Act of 1920, which had placed the onus for their welfare upon local authorities, and had granted to blind persons the old age pension at 50 instead of at 70. Material benefit had also been conferred by the Local Government (Scotland) Act, 1929, which made assistance, other than relief under the Poor Law Acts, available to the blind from the local authorities of towns and counties. The result of this had been an improvement, which, however, varied in different parts of the country. A recent useful concession provided that blind persons might now travel at half fare both on railways and on motor buses, if they were provided with permits issued through societies for the blind.

Scottish Mental Hospitals' Pathological Scheme

The routine and research work comprised in the Scottish and Mental Hospitals' Pathological Scheme is shown by the report for 1934 to be steadily increasing in amount and value. Post-morten examinations were made of 190 brains, and the five special publications which were issued from the laboratory at the Edinburgh Royal Infirmary during that year include one on crural monoplegia of cortical origin, while papers were read

before medical societies on vascular disease and the brain and on the histology of the anterior hypophysis. Another publication described an investigation of the relation of the peripheral lymphatic system to the spinal cord. A study of diabetes by Dr. J. H. Biggart, pathologist to the scheme, afforded an illustration of the way in which the careful and systematic examination of routine material might furnish most valuable information and suggest lines for further special research, in this instance as regards the vegetative centres of the hypothalamic region of the brain. The Board has again to stress the importance of sending in adequate clinical notes with specimens: without such record of the functional disturbances it is not possible, in many cases, to give the help wanted from the pathological investigation. The usual spring term course was given to candidates for the diploma in psychiatry, and lectures were delivered to the undergraduate classes in pathology and psychiatry. Six demonstration sets are now available for the candidates for the diploma and for the medical staffs of hospitals contributing to the support of the scheme.

Edinburgh University Rectorship

Five candidates have been nominated for the Lord Rectorship of Edinburgh University, in succession to Sir Ian Hamilton. The nominees are Lord Douglas and Clydesdale, Field-Marshal Lord Allenby, Mr. C. M. Grieve, the Scottish author, Mr. W. B. Yeats, and Dr. Chalmers Watson, late senior physician to the Royal Infirmary. The nominations will be sent forward to the Rectorial Election Committee for approval, and the election will take place early in the autumn term.

Reports of Societies

SCARLET FEVER OTITIS

At a meeting of the Fever Hospital Medical Services Group of the Society of Medical Officers of Health, held on May 31st, with Dr. H. S. BANKS in the chair, a discussion on "The Incidence and Management of Scarlet Fever Otitis" was opened by Dr. MURDOCH MCGREGOR.

Dr. McGregor referred to the statement of E. L. Ross (1924) that 10 per cent. of deaf-mutes and 10 per cent. of all cases of chronic otitis media owed their condition to scarlet fever. Hence it was of the utmost importance that adequate measures should be taken for the prevention and treatment of the acute stage in fever hospitals. The incidence of otitis media complicating scarlet fever had not, in general, declined materially since the war, in spite of the mildness of the disease and the new factor of serum treatment, in so far as the latter was given intramuscularly. In considering the incidence rate in any series it was important to know the proportion of cases under 5 years of age, since by far the heaviest incidence fell on this age group. At the Park Hospital, London, the incidence rate in a large number of cases of about normal age composition (25 per cent. under 5 years) and treated with serum intravenously was 1.9 per cent., a really encouraging figure.

Otitis media did not always proceed to suppuration. Routine inspection of ear drums revealed a small proportion of low-grade inflammations which generally subsided slowly over several weeks. It was important that this condition should be supervised, if the child was discharged from hospital, before it subsided completely. At the Park Hospital the ear drums of all cases about to be discharged were now inspected. Bacteriological examination of the discharge taken direct from the tympanum with suitable precautions showed pure cultures of haemolytic streptococci during the first week or two: thereafter secondary infection with skin organisms tended to occur, and the latter gradually replaced the haemolytic streptococci in the more chronic cases. A rigidly aseptic meatal toilet was therefore advocated—for example, sterile wool mops, frequent deep meatal mopping, followed by hygroscopic (glycerin and spirit) drops, and, lastly, the application of ointment to protect the skin of meatus and pinna. Routine early paracentesis before the membrane ruptured was an impracticable ideal. Frequently the first sign of otitis media in children was a discharge from the ear. Routine examination of all ear drums once or more often daily had been attempted for a short time—for example, at Los Angeles—but the labour and expense involved were beyond reason, although results were good. With reference to the cure of the discharging ear and prevention of chronicity, Gardiner (1922) and Harries and Gilhespy (1924) advocated early removal of adenoids. Layton (1925), from experience in London fever hospitals, was unable to support this thesis.

Dr. McGregor then described results of treatment of a consecutive series of 152 discharging ears complicating scarlet fever, under the general supervision of Mr. T. B. Layton at the Park Hospital. No operative treatment of tonsils and adenoids was performed. An otological record of every case was made during treatment and just before leaving hospital. Treatment consisted of the meatal toilet described above, combined in some cases with zinc ionization. Prognosis was found to be influenced by three factors: (*a*) age—the younger the child the worse the prognosis; (*b*) the presence of intercurrent infectious disease; and (*c*) the treatment of the acute stage of scarlet fever with intravenous serum. The results of treatment showed a marked improvement on Layton's (1925) published results, particularly in the age groups beyond 5 years. The powerful new factor in the improvement appeared to be the intravenous serum treatment of the fever itself. Almost perfect results were obtained where zinc ionization was used in the serum-treated cases, and non-serum-treated controls did not yield such good results. The explanation of this difference appeared to lie in the good general condition and rapid subsidence of the nasopharyngeal congestion in the serum-treated cases. Experience with otitis following measles, in which zinc ionization had little effect, apparently confirmed this view.

STATISTICS

The president, Dr. BANKS, showed lantern slides demonstrating the statistical basis of the work at the Park Hospital described by Dr. McGregor. Incidence of scarlatinal otitis media as late as 1933 in the whole of the L.C.C. acute fever hospitals (19,069 cases) was 8 per cent. In published series of intramuscularly serum-treated cases incidence varied from 3.5 per cent. (Harries, 1930) to 8.4 per cent. (Craig, 1928). On the other hand, the incidence in his Leicester intravenously serum-treated cases was 0.9 per cent., and in his London series (1933 and 1934) 1.9 per cent. The latter results were very similar when corrected for the different age distribution in the two series, and they demonstrated the remarkable effect of intravenous serum in reducing the incidence of otitis media. As regards prognosis, the age group 0–2 years was the worst, 51.4 per cent. failing to clear up in an average period of eight weeks, but none of these cases had had intravenous serum. After 2 years of age the fall in the number of cases failing to clear up in the period stated was steep—namely, 14 per cent. in the age group 2–5 years, and only 2.8 per cent. in the age group 5–15 years. The presence of intercurrent upper respiratory infections—for example, nasal diphtheria, measles, whooping-cough, tonsillitis—had a profoundly bad effect on prognosis, 29 per cent. failing to clear up as compared with 15 per cent. for simple scarlet fever. Further, the duration of the otorrhoea in the successful cases was almost doubled as compared with that in the simple scarlet fever group. The most striking factor in the prognosis was intravenous serum treatment, only 13 per cent. failing to clear up as compared with 28.2 per cent. in the non-serum-treated controls. With zinc ionization treatment, in simple scarlet fever, thirty-two dry ears and four failures were obtained, as compared with twenty-nine dry ears and nine failures where ionization treatment was not employed. The worst combination was found in the non-serum-treated cases which contracted intercurrent respiratory infections. In this group, even with zinc ionization treatment, there were as many as ten failures in twenty-three cases.

THE SOCIOLOGICAL ASPECT

Mr. T. B. LAYTON said he wished to carry the discussion on from the point where Drs. Banks and McGregor had left it to those cases which remained uncured at the end of the time they had chosen. He recalled that, once the patient had been got well as a whole, practically the only permanent damage that scarlet fever left behind was that in the ears. He had called this the national aspect of ear disease in scarlet fever (Annual Report, L.C.C., 1930, vol. iv, Part 3), and he would divide it into two parts. First came the question of getting those resistant ears dry. It was from those that did not get dry that the otological tragedies would come in forty or fifty years' time. These were still distressingly frequent. They were represented by the case of a man who did not know life without a running ear, until one day, when he was nearing 50 years of age, with a wife and family to keep, he was struck down by a headache, and within forty-eight hours was dead of meningitis. Every additional running ear that was got dry at the convalescent stage was a potential life saved from such a tragedy in forty years' time. He thought that the treatment of threatened chronic "streptococcalosis" should be the same as that of chronic tuberculosis. The local treatment depended upon the principle that an inflammation tended to get well by itself if the cause of the irritation was removed. At this stage the products of the inflammation were the cause that kept it going. The removal of pus from the external auditory meatus allowed fresh pus to flow into it from the middle ear. In other words, improved education of the nursing profession was the most important factor in the treatment of ear disease. In addition, movements of the pharyngeal wall had a marked effect upon the middle ear, probably by opening the Eustachian tube and allowing drainage down it. Movements of the pharyngeal muscles by every possible means were needed—by getting the children to play, to laugh, and to sing, by making them chew, by giving them physical drill, and by nose-blowing exercises. He would rather have a child crying than stolid from the point of view of getting an ear well; and it was impossible to cure otitis media in the child with the immobile face that you saw in the glass rooms of the isolation wards. The other way in which irritation in the middle ear could be stopped was by opening the mastoid and preventing the discharge there formed from flowing over the mucous membrane of the middle ear. Mr. Layton called this the "clearing up" mastoid operation, and if it were a question of choosing between removal of tonsils and adenoids and doing such an operation he would certainly open the mastoid. At this stage it was a small operation from the patient's point of view, and the amount of tissue removed was slight, as was also the trauma to surrounding tissue. People generally failed to realize how severe an operation to a child might be that of removal of tonsils and adenoids, with the three large wounds open on the surface and considerable trauma to the underlying tissues. He would therefore ask members to consider the "clearing-up mastoid" as a valuable operation in carefully selected cases.

The second part of the national aspect of ear disease in scarlet fever was formed by those cases which were clinically well, but had some residual deafness or hardness of hearing; these constituted educational rather than medical problems, and a duty rested upon the medical profession to inform the educationists at once as soon as there was some suspicion of this having arisen. To test the hearing in a child was so difficult that he did not think it advisable to try it in the ward of the fever hospital; a special examination of suspects should be made shortly after they left the fever hospital. Presumptive evidence of hearing defect should come under three heads: (*a*) where the illness has been a very severe one, (*b*) where on otological examination considerable destruction of the drumhead was seen, and (*c*) where there was some suspicion of deafness during the stay in hospital. In every area there should be a liaison between the medical authorities in charge of the infectious hospitals and the educational authorities whereby every such case arising under the former was reported to the latter. It must be remembered that the majority of such cases occurred in toddlers who might not go to school for another two or three years, and in those years they were losing that valuable subconscious education that came from listening to sounds around them. Some legislation would be necessary to establish such a complete liaison throughout the country.

GENERAL DISCUSSION

Dr. E. H. R. HARRIES (North-Eastern Hospital, L.C.C.) agreed that, in comparing the incidence of scarlatinal otitis media in the various series of cases discussed by Drs. McGregor and Banks, the proportion of children under 5 years of age in each series was of the greatest significance. He alluded to the two Birmingham series which had been quoted by the authors, and said that in his opinion the complication of otitis media was that least likely to be affected by the injection of antitoxin. The authors had noted that in the Birmingham 1921–2 series, in which none of the cases were treated with scarlet fever antitoxin, the incidence of otitis media had been considerably higher than in a series all treated with antitoxin by the intramuscular route in 1930. Dr. Harries pointed out that in 1921–2 scarlet fever, although already a mild disease, was less mild than in 1930. In 1934 the disease was of trifling clinical severity, septic types of case being few and far between. Not only must this progressive mildness be taken into account, but also the nutrition of the children admitted and the conditions under which they were nursed in hospital. In 1921–2, the post-war years, nutrition was not satisfactory, and, further, the patients were for the most part nursed in old, large, and overcrowded wards which had long since been demolished. The bed spacing of the 1930 series was much more favourable, whilst in a later (1934) London series, all treated with antitoxin intramuscularly, twelve feet of wall space between bed centres had been rigidly maintained. Dr. Harries stressed the vital importance of adequate bed spacing, not only in the elimination of droplet reinfection of the upper respiratory tract, but in the prevention of hurried nursing by an overworked staff, which resulted in manual transference of infection from the upper respiratory tract of one child to that of another. He thought that while the opinion originally expressed by the Dicks that scarlet fever antitoxin, by abolishing toxaemia, the better enabled the patient to withstand bacterial infection was probably true, he had at present no *proof* of its effect upon scarlet fever otitis. In default of a strictly controlled series of a magnitude which might be statistically significant, he could only say that he did not know.

Dr. A. T. W. POWELL (M.O.H., Walthamstow) referred to the "follow-up" which had been in operation in his area for some years. Cases discharged from the isolation hospital were seen at a weekly out-patient clinic in order to control late complications and to assess fitness for school attendance. Those cases of chronic otorrhoea which had not responded to treatment in hospital were referred to a weekly aural clinic under a consultant. Such cases rarely failed to respond to ionization treatment; arrangements existed, where necessary, for the reference of cases of chronic otorrhoea and mastoiditis for operative treatment at two local general hospitals. Dr. DUNSTAN BREWER (Swindon) said that in the provinces some of the troubles to which Mr. Layton had referred did not exist, for the health services were not discoordinated as they were in London. For some years he had aimed at not discharging from the isolation hospital any child still suffering from ear disease. For sixteen years he had been able to succeed, though recently there had been some failures. He supported strongly the conservative treatment of scarlet fever otitis.

Dr. E. W. GOODALL, in moving a vote of thanks to Drs. McGregor and Banks and to Mr. Layton, assured the latter that otitis was not the only complication that gave rise to some lasting disability, though it was perhaps the most important one. Dr. Goodall drew attention to the necessity for caution in drawing conclusions from sets of figures in which so many variables appeared, as in those presented that afternoon. Dr. Harries had pointed out the decline in the severity of scarlet fever during recent years. Otitis occurred most frequently in the

severe cases, so that along with that decline there had also been a decline in the incidence of otitis. That had been shown in a report published by the Medical Research Council six years ago in respect of the Eastern Hospital, Homerton. Further, of the principal complications of scarlet fever, otitis had been the only one to show a decline. There was also a suggestion that severe cases, and therefore otitis, were more frequent in epidemic times. All these facts had a bearing when one was considering the results of treatment.

ELECTRICAL AIDS FOR THE DEAF

The summer meeting of the Sections of Otology and Laryngology of the Royal Society of Medicine took place at Bristol University on June 14th and 15th, under the direction of the respective presidents, Mr. E. A. PETERS and Mr. W. M. MOLLISON. All the discussions were largely attended. The first paper was by Mr. J. MORRIS, an electrical research engineer of Nottingham.

Mr. Morris said that manufacturers of telephones were fully alive to the problem presented by the deaf and the partially deaf person, and that a good deal was being done to alleviate his disability and to enable him to enjoy the advantages of the telephone in his ordinary life. The Ericsson Company of Stockholm had devised a special amplifier which had a volume control, enabling the partially deaf person to adjust the sound volume to suit his requirements. Such an instrument was now under consideration by the British Post Office, but was not yet available. Most of the individual deaf aids were still chiefly imported from abroad, as little attention had been devoted to this matter in Britain. Though one representative had declared that nearly a million amplifiers of one make were now in use in this country, they had not been tested with a universally recognized standard. Electrical aids were divisible into three classes: (1) individual aids (worn on or about the person); (2) semi-portable aids (involving carrying a case or box); and (3) group aids (for use in church and other assemblies). The first of these, he explained, consisted of a microphone (either single or multiple), a telephone receiver (either aural or of the bone-conduction type), a battery, and an "on" and an "off" switch, coupled by flexible wiring and disposed about the person. In the individual type of microphone it was of first importance to have the surface of the carbon block and the centre of the diaphragm very highly polished, otherwise the accompanying crackling sound was almost unendurable. Such a microphone in continual use ran its course in from ten to fourteen days. The telephone receiver could be regarded as a machine for the conversion of electrical vibrations into sound waves; its efficiency differed greatly at various impressed frequencies. When a receiver was employed as an instrument for reproducing speech over a vibration range of 125 to 3,000 double waves per second, it was important to avoid any possibility of a highly efficient response at any single frequency. For the purposes of deaf aids it was necessary to arrange for a maximum efficiency over a wide range of frequency. The batteries used were of the dry-cell kind, but all presented the drawback of having only a short useful life when continuously in use. In recent years a considerable advance had been made in connexion with microphone amplifiers; hence their use was on the increase, especially in electrical aids designed for reception by bone conduction.

Semi-portable deaf aids were becoming increasingly popular; the introduction of miniature thermionic valves had made possible the construction of more robust microphones with a better frequency response and less hissing. Group aids usually consisted of a powerful valve-amplifying apparatus, with high quality microphones, and these represented the ideal form of help for churches, cinemas, and other public places. Their drawback was their very high cost. Mr. Morris said he thought it should be possible, with the assistance of the National Physical Laboratory, to devise a definite standard test on a cathode-ray oscillograph. Speaking next of artificial ears, Mr. Morris said that many such had been devised, mainly for the purpose of investigating the characteristics of telephone receivers, and to replace the human ear in the making of voltmeter tests, this being very fatiguing to the human ear, and liable to error on that account. To be of value the artificial ear must be responsive to sounds of varying frequency, of varying duration, and of varying amplitude, with a reaction to the source of the sound similar to that of the human ear. He exhibited such an artificial ear.

With regard to prescribing a form of aid for a deaf person, the pure-tone method left something to be desired, as the rectifying property of the ear was left out of consideration. If an ear was being tested with a pure note of 256 d.v. per second, and the ear was deficient in hearing at that frequency and below it, the second harmonic might be heard by the patient with greater distinctness than the fundamental note, giving, therefore, a distinctly wrong impression. The audiometer, though of great utility, had certain disadvantages, but the photo-electric talking machine promised great possibilities. One type of this had been devised by the Ericsson Company, chiefly for use as a talking clock. It could be so made as to remain constant under all conditions.

DISCUSSION

The chairman (Mr. PETERS) said that the complexity of the cochlea in comparison with all attempts at imitation showed that only a beginning had as yet been made in what might prove to be great developments in this direction. It had been said that 15 per cent. of the population were deaf at some period of their lives. In an investigation he carried out with the audiometer placed close to the tragus 20 decibels over the threshold could be heard. The otologist must always remember his function of protector of the public in these matters, to prevent their being imposed upon. Mr. ALEXANDER TWEEDIE supported the contention that the aids placed on the market, and assiduously pushed by travellers, should be required to pass some standard test. Even then, if a certificate were issued that the instrument was efficient for the purpose, it would only be valid at the time of issue. Mr. SYDNEY SCOTT supported Mr. Tweedie, and Mr. TUMARKIN dealt with the general question of selective amplification, pointing out that if the frequencies above 2,000 d.v. per second were cut out the intelligibility of the subject would inevitably be much reduced. Carbon amplifiers possessed an amplification in the areas where it was least needed. He thought it should be possible to arrange an efficient rejector circuit—namely, by arranging an inductance in parallel with a condenser. It was necessary to divide up patients into categories according to what they needed; these aids could not be obtained in the way so many people tried on glasses at a large store, selecting those which seemed to suit them best. The real audiometer had still to be made, in his opinion. Mr. A. J. WRIGHT also stressed the need for protecting the public in the matter of alleged hearing aids. Mr. BROUGHTON BARNES considered that the issue of a certificate of efficiency might itself be a danger, as it would strengthen the assurance of the commercial traveller when presenting his wares. It should be made illegal to hawk these instruments around, a condition of sale being capacity to pass a set test. Mr. GRAHAM BROWN said an important point which the otologist was sometimes asked about was whether the wearing of one of these instruments on such occasions as a dinner or a theatre had any effect in the direction of degenerating the hearing power of the person when without such aid. Mr. THACKER NEVILLE said the line he took was to tell patients that the wearing of a hearing aid increased their attention, and so brought into activity hearing energy which otherwise had been allowed to remain latent. The only instrument which he had found of use for deaf-mutes was the multitone aid. He kept by him both hard and soft carbons.

Mr. MORRIS, in reply, agreed that the issuing of a certificate with the instrument might have disadvantages, but there must be a jumping-off point of some kind. Admittedly a certificate would only apply to the date the instrument was tested. He agreed that the multitone aid presented great possibilities of tone control.

OBSTETRICS AND GYNAECOLOGY

At the last meeting of the North of England Obstetrical and Gynaecological Society, held in Newcastle, Mr. WILLIAM HUNTER read a paper on "The Treatment of the Post-haemorrhagic State, with Case Records." He defined this as "that state which follows the rapid loss externally of a quantity of blood sufficient to give rise to symptoms and signs," and the purpose of his investigation was to evolve a practical routine for early emergency treatment. He briefly outlined the changes which occurred in the organism following rapid blood loss. The treatment was divided into prophylactic and curative, directed towards the restoration of a normal efficient circulation with elimination of the anoxaemia, the restoration of the capillary walls to their normal state, and the acceleration of metabolism to restore the functions of the various organs of the body. Mr. Hunter employed glucose gum solution by intravenous infusions, taking thirty to forty minutes to administer each pint, and administering an intramuscular injection of insulin, allowing 1 unit of insulin for every 3 grams of glucose. Ephedrine hydrochloride in 1-grain doses was found most efficacious for elevating the blood pressure. Following this emergency treatment, blood transfusion by the citrate method was advised. Cardiac and circulatory stimulants had not been found of great value.

Mr. HARVEY EVERS and Mr. FRANK STABLER presented a paper on "Two Cases of Severe Dysmenorrhoea associated with Protein Sensitivity." In the first case dysmenorrhoea accompanied by giant urticaria was ushered in by vaccination. After carefully testing the cutaneous sensitivity to various protein products it was found that the patient was sensitive to wheat. Exclusion of this from the diet cured the condition.

Dr. E. FARQUHAR MURRAY read a paper on "Radium Treatment for Gynaecological Conditions in the Newcastle Centre." He traced the history of radium treatment in the gynaecological department from 1920. Since 1932 it had been intensified and operation abandoned. The Stockholm technique was employed. The following table showed the results:

1930	...	...	...	50 per cent. alive after 4 years
1931	...	...	...	53 " " " 3 "
1932	...	...	...	82 " " " 2 "
1933	...	...	...	81 " " " 1 year

Dr. Farquhar Murray pointed out that the results in women over 50 were very good. The treatment of recurrences was discouraging. During the earlier years under review cases of carcinoma of the body of the uterus were treated by hysterectomy, but for some years past now radium alone had been used. The general improvement obtained was favourable to continuance, several patients having passed a three-year period without trouble. Upper vaginal growths had followed the course of cervical lesions, but lower vaginal growths gave disappointing results. Vulval growths did not seem to respond to radium treatment to any extent, and the tendency had been to excise those that permitted of such treatment, and to treat the definitely inoperable by diathermy.

The final programme has now been issued for the International Congress on Life Assurance Medicine, to be held in London from July 23rd to 27th under the presidency of Sir Walter Langdon-Brown. The main subjects for discussion are: methods of estimating risks, the prognosis of hypertension, the acceptance of glycosurics, gastro-duodenal ulceration and life assurance, and health service and life assurance. The social programme includes a Government reception at Lancaster House, a congress banquet at the Dorchester Hotel, an evening reception by the chairman of the Prudential Assurance Company, and an all-day excursion to Cambridge. At the scientific sessions the chair will be taken by Sir W. Langdon-Brown, Dr. Goffin (Brussels), Professor Bergstrand (Stockholm), Dr. Chester T. Brown (Newark, N.J.), and Dr. F. Kauffmann (Zurich). Any medical men interested in the congress can obtain further information from the honorary secretary, Dr. Otto May, 142, Holborn Bars, E.C.1.

CORRESPONDENCE

Bound Volumes of the Journal

SIR,—The Library Subcommittee, with the approval of the Council, desires to present to the new British Post-Graduate Medical School at Hammersmith a complete set of the *British Medical Journal*. The great majority of the volumes can be spared from the headquarters of the Association at Tavistock Square, and a helpful contribution (1868–74) has been received from the Cumberland Royal Infirmary through the kind interest of Dr. H. J. M. Milbank-Smith. The series, however, is not yet complete, for the years 1856–67 (both inclusive) are missing. Members who are able to present all or any of the needed volumes or can give information where these may possibly be obtained, will be assisting a modest attempt to express the Association's interest in the new Post-Graduate School. The suggestion has been made that certain of the missing volumes might be available in hospital libraries, and if it were possible for such libraries to present any volumes which they did not themselves require the Library Subcommittee would be very grateful. All communications should be addressed to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1.—I am, etc.,

London, June 14th. C. O. HAWTHORNE,
Chairman, Library Subcommittee, B.M.A.

Abdominal Pain in Children

SIR,—As a member of the visiting staff of a large children's hospital I was particularly interested to read Professor Rendle Short's paper on "Abdominal Pain in Children."

In speaking of intussusception, he says that the passage of blood and mucus may be delayed for many hours. My own personal experience in rather more than eighty cases of this condition is that a certain small proportion of them never produce blood at all, either spontaneously or on the examining finger.

He also states that "in nearly 50 per cent. of cases of intussusception the sausage-shaped tumour is absent (although under an anaesthetic it can nearly always be discovered)." I should have said that the tumour was palpable in at least 90 per cent. of cases without the aid of anaesthesia, although I admit that great patience and considerable time may be required. The textbooks omit to mention that the child sometimes cries so persistently that abdominal examination is almost impossible; but even so, if the tumour is sufficiently large, the examining hand may come down on to it during inspiration. If, on the other hand, the tumour is small, and especially if it is tucked up under the liver, it will be quite impossible to feel it until the child has quieted down. If crying continues it is well worth while leaving him for fifteen or twenty minutes, by which time he may be asleep and a sufficiently long examination be made to ascertain the presence or absence of a tumour. If all these attempts fail, then, but only then, must an anaesthetic be given.

Professor Short speaks of the sausage-shaped tumour as if it always had that characteristic. This sausage shape means that the intussusception has already travelled some distance along the colon, but it is not uncommon to find the tumour merely globular or slightly elongated and entirely confined to the right lumbar and hypochondrial regions.

I believe that the amount of blood in the stool and the size of the tumour (and therefore its shape) are closely related, and my own series of cases suggests that the small

tumour is associated with much blood and the long sausage-shaped tumour with little or none. In the former case the caecum is well anchored to the posterior abdominal wall by peritoneum so that little inversion can occur. This leads to early venous congestion of the terminal ileum and caecum (for almost all intussusceptions are of the ileo-colic type) with consequent bleeding from the mucous membrane into the lumen of the bowel. At the same time oedema of the bowel wall and mesentery rapidly occurs, and the reduction of the intussusception, even during the first twelve hours, may afford difficulty. In the case of the long, really sausage-shaped, tumour extending across the abdomen to the left side the caecum is hypermobile, the peritoneum completely surrounding it and attaching it to the posterior abdominal wall by a mesentery. The intussusceptum can travel along the colon easily and comparatively rapidly, dragging the loose caecum along behind it. There is little nipping of the blood vessels, and because of this little or no haemorrhage and little or no oedema, and even when of many hours' duration this type is usually easy to reduce.

There is one form of appendicitis causing abdominal discomfort in children which Professor Rendle Short does not include, yet I think it deserves mention, and have spoken and written of it elsewhere. From time to time one sees a child of about 5 or 6 years of age whose parents give a story something as follows. About two or three times a month he will break off from play and go to his mother complaining of central abdominal pain. He looks pale, and wishes to lie down, and there may be nausea or even vomiting. After about two hours the whole thing settles down and the child returns to play. If an examination is made during one of these attacks it is found that there is definite tenderness over the appendix but no rigidity, the temperature is in the region of 99° F., the pulse rate slightly increased, the tongue clean, and the bowels well open. In view of the rapid march of events in children an operation for appendicitis will probably be advised. When removed, the appendix looks disconcertingly normal, yet when slit open will be found to contain several actively writhing threadworms, the mucous membrane is pinkish, and the microscope reveals catarrh of the mucous membrane. I have now encountered fourteen of these cases, and was so impressed by my earlier ones that for some years now I have inquired into the question of threadworms whenever faced with this clinical picture, and in several cases have been able to foretell the state of affairs. Indeed, I think one may regard threadworms as a definite cause of appendical irritation in children.—I am, etc.,

June 13th. F. A. R. STAMMERS, M.B., F.R.C.S.,
Assistant Surgeon, General Hospital, Birmingham; Surgeon to Out-patients, Children's Hospital, Birmingham.

SIR,—On reading Professor Rendle Short's splendid address in the *Journal* of June 8th I was struck by his not mentioning diarrhoea as a usual symptom in cases of pelvic appendicitis. In appendicitis, constipation is the rule; yet when there are suspicious signs and symptoms of an inflamed appendix together with diarrhoea, although there may be no lump or tenderness discovered per rectum, no pain on putting the psoas muscle into contraction, and no interference with the normal functioning of the bladder, an inflamed appendix is very often (I cannot quote figures as to how often—I might say usually) the explanation. This was taught me years ago by Mr. Russel Howard, and I have, in finding it an invaluable guide, confirmed its truth over and over again.—I am, etc.,

Llandilo, Carmarthenshire, June 13th. J. H. LLOYD.

Diagnosis of Appendicitis in Children

SIR,—Professor Rendle Short, in his paper on abdominal pain in children (*Journal*, June 8th), states: "Under the age of 5 appendicitis, if not an impossible diagnosis, is distinctly uncommon. . . . There are, of course, a number of special signs described for appendicitis—skin tenderness . . . but in my experience they fail us just when we should value them most."

I have found Ligat's reflex invaluable in children, as I mentioned in a paper in the *Practitioner* of May, 1933. If the test is positive trouble will be found in the appendix. The test is especially valuable in that it is the same wherever the appendix is situated. Also, with the sign positive, a diagnosis can be made earlier. Even in babies the test can be very valuable. In certain cases of "growling appendix" it may be the only physical sign present. When doing the test in children it is most important to watch the facial expression to see if any wincing occurs, and not merely rely on the child's statement as to the area in which the tenderness is most marked.—I am, etc.,

Harrogate, June 17th. A. C. SHARP.

Benedict's Qualitative Test

SIR,—In your issue for June 8th Dr. Joseph Fine describes certain modifications of Benedict's test for enabling quantitative estimation of glucose to be performed by the use of the qualitative solution. The appearance of this article inspires me to raise the question as to what is the ideal testing solution for use in diabetes. For many years biochemists have preached the superiority of Benedict's solution over Fehling's solution, but considerable experience in the treatment and training of diabetic patients has convinced me that the advantages are more theoretical than practical.

For the ordinary patient Fehling's solution is superior to Benedict's because: (1) The test is more rapidly carried out and the measurements involved are simpler. (2) Fehling's solution can readily be obtained from even a small pharmacy, whilst Benedict's solution is liable to mistakes in dispensing. As regards the latter point, I have on two occasions known most serious mistakes to occur in large hospitals owing to Benedict's quantitative solution having been supplied instead of qualitative solution.

A further point of considerable importance arises: Fehling's solution will often give a positive result with dilutions of sugar so small that Benedict's test is negative. If this observation is correct it is very important, because what we require to know is not how much sugar is present but whether sugar is present at all.

In the days before insulin made the treatment of diabetes an almost exact procedure, it had become customary in many laboratories to estimate the percentage of glucose in urine by polarimetric methods; perhaps Dr. Fine will tell us whether these are greatly inferior to the procedures he describes.—I am, etc.,

London, W.1, June 12th. T. IZOD BENNETT.

Resistance to Insulin

SIR,—Insulin-resistant patients are extremely rare. Although I have seen a number of patients who did not react to insulin a short time before they died, I have met only one case which was really resistant to insulin.

In August, 1924, Miss C., aged 24, was placed upon a diet recognized as correct at that time, consisting of very little carbohydrate and plenty of protein and fat. On September 24th the sugar content of her blood at 10 a.m. was 0.23 per

cent., and at 12.30 p.m. was 0.23 per cent.; fifty units of insulin were injected, and a lunch consisting of carbohydrate 6 grams, protein 41 grams, and fat 25 grams was given, and the blood examined every half-hour afterwards. The sugar content of the blood at 2 p.m. was 0.20 per cent., at 2.35 p.m. 0.21 per cent., at 3.5 p.m. 0.21 per cent., at 3.35 p.m. 0.20 per cent., at 4.5 p.m. 0.19 per cent., at 4.35 p.m. 0.17 per cent., at 6 p.m. 0.17 per cent., and at 6.30 p.m. 0.17 per cent.

This patient died from ketosis some four years later, and during the interval was subjected to very large doses of insulin without any effect being produced. The following case has made me take the view that resistance to insulin cannot be established in a day or two.

A woman aged 50 was sent to me from South Africa with the following letter from her medical adviser.

"This is to introduce Mrs. R. F., who is a rather interesting case of insulin tolerance. I first attended her about four years ago for gangrene of her foot. She had had no previous treatment. She was placed on insulin—if I remember correctly, about 30 units three times a day. Although much of the plantar surface sloughed and a couple of phalanges of the toes necrosed, nevertheless the foot healed well; she put on weight, and was able to go over-seas for a holiday. Some time after her return she developed periostitis of her right ribs, with a temperature, and a return of sugar in her urine along with great quantities of acetone. After two months' treatment with increased doses of insulin the sinuses healed. Then she was on 200 units of insulin daily, and the urine contained sugar but no acetone. I attempted to reduce the doses of insulin, but after a short time she developed arthritis, with a return of glycosuria. On increasing the doses of insulin to 320 units daily the glycosuria was controlled. The arthritis of the wrist cleared up, but later an inflammatory condition of the left wrist developed, along with oedema of the hands. Insulin had to be increased to 450 units daily. The inflammatory condition subsided, leaving stiffness. Acetone disappeared from the urine. The urine was occasionally free from sugar and the patient put on weight. During the whole time that I have attended her she has never had any reaction to insulin, except occasional diarrhoea, and at present requires more insulin than she is receiving to render her urine free from sugar. An estimation of the sugar concentration of the blood was made when I first saw her; it was high, but I have not the figure before me now. Her husband has been of great assistance in taking care of her, and by now is almost able to treat her himself. I regret that I cannot give you the exact figures concerning her case as I have just returned from holiday and have not my records before me."

The husband had increased the doses of insulin to as much as 125 units four times a day, but in spite of this 500 units of insulin daily the sugar content of her blood at 11.50 a.m. on April 9th, 1935, was 0.30 per cent. The diet she had been taking was poor in carbohydrate and rich in protein and fat. The patient felt well, and had no inkling of the gravity of her condition. She resented devoting time to amelioration of her health when there was so much to be seen in London. She was persuaded to enter a nursing home for a few days. Examination failed to show any focus of infection.

The patient was kept in bed and given one ounce of dextrose and the juice of one lemon in eight ounces of water at 8 a.m., 10 a.m., noon, 2 p.m., 4 p.m., 6 p.m., 8 p.m., 10 p.m., and 4 a.m., about 250 grams of carbohydrate, and nothing in addition. Forty units of insulin were injected before each glass of lemonade was taken. The sugar content of the blood during the day after the beginning of treatment was: at 8 a.m. 0.20 per cent., at 10 a.m. 0.25 per cent., at noon 0.30 per cent., at 2 p.m. 0.21 per cent., and at 4 p.m. 0.30 per cent. Glycosuria persisted. The following day, forty-eight hours after the beginning of treatment, the sugar content of the blood was 0.25 per cent. Liver "cocktails" were added to the diet, and two lots of lemonade were replaced by equivalent of biscuits, and tea was allowed. Next day towards evening the urine became sugar-free, about eighty hours after treatment had been begun. On that day dextrose had been stopped and biscuits given representing 250 grams of carbohydrate.

The patient insisted on leaving the home, and returned to the house of a relative on a diet of carbohydrate 250 grams, protein 50 grams, and fat 10 grams. On April 18th, whilst on 384 units of insulin, the sugar content of the blood at 10.55 a.m. was 0.06 per cent., and at 11.10 a.m. 0.06 per cent. The dose of insulin was reduced to 60 units six times a day from 64 units six times a day. Four days later the patient had a very severe hypoglycaemic attack. Twenty hours after the attack, in spite of the insulin having been reduced from six doses of 60 units each to six doses of 40 units each, the sugar content of the blood was 0.039 per cent. Insulin was reduced further to 30 units six times a day. At 11.15 a.m. the following day the sugar content of the blood was 0.066 per cent., and the doses of insulin advised were 40 units before breakfast, 36 units before lunch, 36 units before tea, and 32 units before dinner. Each meal consisted of 60 grams of carbohydrate, 12 grams of protein, and traces of fat. On April 30th the patient caught cold, and there was a brief relapse.

She left for Canada on a diet of carbohydrate 250 grams, protein 70 grams, and fat 50 grams, and taking 142 units of insulin daily, the sugar content of her blood not rising above 0.17 per cent. after meals.

This history illustrates the fact that cases which may appear at first sight to be resistant to insulin may prove to react after a few days of suitable diet. It illustrates, too, the advantage of a high carbohydrate diet in some cases and the immense advantage to the patient when standard diets are discarded and a diet suitable to the individual adopted.—I am, etc.,

London, W.1, June 15th. OTTO LEYTON.

Drainage of the Middle-Ear Cleft

SIR,—It is generally admitted that the main function of the auditory or Eustachian tube is to equalize the pressure of the air on each side of the tympanic membrane—that is, in the middle ear and in the external acoustic meatus. In addition, the Eustachian tube is usually regarded as Nature's channel for the drainage of the middle-ear cleft, which includes not only the tympanic cavity but also the tympanic or mastoid antrum and the air cells connected with both of these spaces.

As a matter of fact, however, during the occurrence of acute otitis media, whether of the sero-mucous, catarrhal, or suppurative variety, the Eustachian tube forms a very inefficient drain, even more inefficient than the naso-frontal duct in cases of acute frontal sinusitis. The frequent and annoying persistence of sero-mucous middle-ear catarrh and of other forms of acute non-suppurative otitis media points to the conclusion that the Eustachian tube provides poor drainage. The persistence of pain before rupture or paracentesis of the drumhead in cases of acute suppurative otitis media demonstrates the same point. Later on, in a unilateral case, it is exceptional on posterior rhinoscopy to see pus at the pharyngeal orifice of the Eustachian tube on the affected side. There can be little doubt but that the faulty drainage in all these cases is due to swelling of the lining membrane of the Eustachian tube and to interference with ciliary action. That, in the absence of swelling of the lining membrane, the tube may form an efficient drain is demonstrated by the following case.

A male, aged 22, received a blow from a hockey ball on the left mastoid on November 17th, 1934. The patient fell down but was not unconscious, and after lying on the ground for a minute or so he was able to get up and go on with the game. (A blow on the mastoid region has been called "the false K.O.") When the patient was seen at 6 p.m. there was a large swelling about the size of half a plum over the lower part of the left mastoid process and insertion of the sterno-mastoid muscle. The skin was not broken, but there was pain on moving the head. Otoscopy showed blood behind the mem-

brana flaccida and also a trickle of bright red blood coming down in front of the malleus, and another in the posterior part of the tympanic cavity behind the long process of the incus. The drumhead was normal ; there was no blood in the external meatus, and, further, at this time there was no bleeding from the nose. On testing the hearing it was found that the Ingersoll "Crown" watch could be heard at the normal distance—nine feet—by the left (affected) ear as well as by the right. There was no complaint of giddiness. The patient had rather a disturbed night on November 17th, because, as he explained, whenever he turned over in bed he felt a good deal of pain in the left mastoid region.

On the following day radiograms were taken and showed slight cloudiness of the mastoid air cells on the left side as compared with the right, but there was no evidence of fracture of the mastoid process. I have, however, had two cases within recent years in which middle-ear suppuration and mastoiditis followed fracture of the cranial base, due to falls on the head, and in which radiograms failed to show any line of fracture. Mastoid operation, however, clearly demonstrated a transverse or oblique fracture of the mastoid process.) On November 18th—that is, the day after the injury—the patient noted that there was blood on his handkerchief after he had blown the left side of his nose. On November 19th the patient for the first time noted slight deafness in the left ear. On November 21st, after a game of golf, slight pain in the left ear was complained of: there was still a little blood from the left side of the nose. Otoscopy now showed some dark blood in the lower part of the tympanic cavity: in addition, there was a streak of blood, as before, passing down medial to the drumhead along the posterior wall of the cavity, presumably from the mastoid air cells, tympanic antrum, and aditus.

On November 22nd Dr. Logan Turner kindly saw the patient and advised against any more golf, which he thought had resulted in a recurrence of the haemorrhage. On the following day the blood in the tympanic cavity had practically disappeared and the slight deafness had also passed off. On November 27th, after a short motor-cycle ride, the patient reported recurrence of the deafness in the left ear, and again on otoscopy blood was seen passing down the posterior wall of the tympanic cavity. On November 30th the middle-ear cavity was quite free from blood. The "Crown" watch was heard by the right ear at nine feet, but by the left ear at only six feet ; the low-pitched fork (C 32) was heard equally well by both ears ; on Weber's test the tuning-fork was lateralized to the left (affected) ear. On December 3rd no more haemorrhage was noted, and the hearing was quite normal on both sides.

—I am, etc.,

Edinburgh, June 10th. J. S. FRASER.

Bronchiectasis and Atelectasis

SIR,—In your annotation on bronchiectasis and atelectasis in the *Journal* of June 8th, the statement that "massive pulmonary collapse in adults never seems to produce the basal triangular shadow" is erroneous. I have observed this triangular opacity in several cases of post-operative collapse, and I am sure that some of my radiological colleagues can corroborate this finding. The basal triangular opacity represents lower lobe collapse only, and as such the clinical signs and symptoms of it are not so dramatic as those of massive collapse of the whole lung ; indeed, post-operative lower lobe collapse may be completely symptomless, and this accounts for its apparent rarity.

Dr. Findlay's assertion that "disappearance of the triangular opacity by reinflation is the only criterion by which it can be decided that a particular shadow in the skiagram is caused by collapse" is open to many objections. A triangular basal opacity in the diaphragmatico-vertebral angle can be pleural or pulmonary in origin. If it is due to an encysted mediastinal effusion lipiodol shows a normal bronchial and alveolar filling. If it is due to intrapulmonary causes the sharply defined outer edge of the triangle can be produced only by a fissure. Lipiodol injection shows clearly whether this is the normal fissure or an extra fissure bounding an infracardiac lobe. Lipiodol appearances are a better criterion of collapse than reinflation: (*a*) because lipiodol shows the whole of the lower lobe bronchi jammed together in the triangular area and the rest of the thorax filled by distended alveoli from the upper lobe bronchi ; and (*b*) because reinflation is seldom possible owing to arrest of alveolar growth in a lobe which has been collapsed for some time.

There is no real evidence in favour of collapse causing or predisposing to bronchiectasis. It is clear that in children the lower lobes tend to collapse very readily, probably because the cartilaginous rings in these larger bronchi are immature and unable to keep the tubes patent under severe stress. Lower lobe collapse has been reported in almost all the pulmonary diseases of childhood. I have seen it in lobar pneumonia and bronchopneumonia and in epituberculosis and basal phthisis in children. In these diseases the collapse disappears or improves as the disease improves, and one is justified in concluding that in bronchiectasis the collapse is an effect and not a cause of the disease.—I am, etc.,

London, W.1, June 11th. PETER KERLEY.

Gastrectomy

SIR,—Mr. Herbert Paterson, in your issue of June 8th, states that I made a "dangerous proposition" in connexion with gastrectomy which ought not to pass unnoticed. In my letter of April 27th I wrote that the severe gastro-jejunitis which may give rise to serious symptoms after gastro-jejunostomy often "cannot be recognized with the *x* rays nor by inspection of the anastomosis in the course of an operation, with the result that the abdomen is often closed after dividing adhesions or some other equally futile procedure. If partial gastrectomy is performed on the clinical findings, the true nature of the condition is discovered and the patient is cured." (Incidentally Mr. Paterson misquotes me as saying that "this condition can only be recognized by inspection of the anastomosis" —whereas I am convinced that this is not the case.)

I quite agree with Mr. Paterson that many cases of anastomotic ulcer can heal under medical treatment, so that it is surprising that gastro-jejunitis should ever require surgery. I also agree with him that no operation should be performed on a stomach in the absence of a demonstrable organic lesion. But a stomach with a gastro-jejunostomy is not a normal stomach, and it may completely hide a dangerous organic lesion from discovery from the outside.

The following case taught me that severe gastro-jejunitis, without chronic ulceration, may cause dangerous symptoms, that it does not always yield to medical treatment, that nothing abnormal is found on simple inspection and palpation of the parts when exposed at operation, and that a sufficiently large gastrectomy to produce achlorhydria is the only means of cure.

A man, aged 39, was admitted in October, 1931. In June, 1915, a few hours after a kick in the abdomen, he had had severe pain followed by melaena. In July his appendix was removed, but as soon as he left hospital he had pain two hours after every meal. He was kept on milk for six weeks, but the pain returned directly he went back to duty. In October, 1915, a gastro-jejunostomy was performed, a healed ulcer being found at the pylorus. He had attacks of indigestion each week up to 1922, and in December, 1923, without any preliminary indigestion, he had a very severe haematemesis, from which he nearly died. He was away from work for six months. In May, 1925, without any preliminary pain, he had another severe haemorrhage. Three weeks later partial gastrectomy was performed ; no ulcer was found, but

there was a scar at the pylorus, which was very narrow. In June, 1926, he had a slight haemorrhage and in December a severe one. In May and December, 1928, he had further haemorrhages. In January, 1929, he had severe pain for the first time for some years; this disappeared after a fortnight in bed, but ten days later he had another severe haemorrhage, his haemoglobin falling to 29 per cent. He did not recover sufficiently to return home till November 30th, and on December 2nd he had his eighth haemorrhage. In June, 1930, he had his ninth, and in July, 1931, his tenth haemorrhage, both without warning, as he had had no indigestion and was constantly on a very strict diet.

When I first saw him in October, 1931, he had kept to a strict diet for several years and neither drank nor smoked. He took alkalis between meals and belladonna before meals. A fractional test meal showed hyperchlorhydria. I asked Mr. Ogilvie to remove as much of the stomach as possible in order to produce achlorhydria, which appeared to be the only way of preventing further haemorrhages. On November 19th Mr. Ogilvie found that the old gastro-jejunostomy had been left and only the pyloric portion distal to it had been resected at the second operation. The stoma was free from adhesions and undeformed. No ulcer could be seen or felt either in the stomach or at the anastomosis. In spite of the healthy appearance of the anastomosis a high Polya-Moynihan gastrectomy was performed. Although the patient had been given four weeks' strict medical treatment immediately before the operation, and had for years been very careful about his diet, a severe hypertrophic gastro-jejunitis was present, which extended on the stomach side a considerable distance from the stoma. Microscopically there was intense mucosal hyperaemia with lymphocytic and plasma-cell infiltration and several minute superficial erosions. The patient made an uneventful recovery, and was now found to have complete achlorhydria. In the three and a half years which have elapsed he has remained perfectly well: there has been no indigestion and no further haemorrhage.

Mr. Paterson presumably would have refused to do anything more after finding no sign of an ulcer when the parts had been exposed. The patient would have continued to have a severe haemorrhage about twice a year, which would have prevented him from following his occupation for more than two or three months at a time, and he would probably have had a fatal haemorrhage by now. As it is he has been at full work as an engineer ever since the operation.

Since 1931 I have seen several similar cases. So far from being very dangerous, I think the recognition by physicians and surgeons of the proposition which has met with Mr. Paterson's disapproval will save many people from permanent incapacity or fatal haemorrhage or perforation.—I am, etc.,

New Lodge Clinic, June 11th. ARTHUR F. HURST.

Follow-up Results in Rheumatic Cases

SIR,—For the last few years I have sent a stamped addressed envelope to the physicians who have sent in cases to my wards at the Royal Mineral Water Hospital, Bath. The following statistics were compiled from the cases whose family doctors answered the simple query, "Kindly inform me of this patient's progress in one month's time." The actual dates when the replies were received varied from six weeks to three months from the date of discharge. The statistics refer mostly to 1934.

During this time seventy-five replies were received, and these patients' case-sheets have been perused and the following facts deduced. The average length of stay in hospital was forty days. There were forty-seven male patients and twenty-eight female patients. It will be noticed that eleven men and eighteen women come in the group of rheumatoid arthritis; that there is only one woman out of a total of eleven with gout. The wording of the doctors' replies was strictly adhered to, except in one case of rheumatoid arthritis, which has been included in "greatly improved," whereas the patient's doctor writes that the disease has been arrested.

The total percentages work out at 70.6 per cent. greatly improved and improved, 26.6 per cent. no change, and 2.6 per cent. worse. When it is remembered that the majority of these cases are at least moderately severe, I think the results are economically successful.

	Males	Females	Total	Percentage
Rheumatoid Arthritis				
Greatly improved	6	8	14	68.8
Improved	1	5	6	
No change	3	5	8	27.5
Worse	1	—	1	3.4
Fibrositis				
Greatly improved	2	2	4	40.0
Improved	—	—	—	
No change	2	3	5	50.0
Worse	1	—	1	10.0
Sciatica				
Greatly improved	1	—	1	50.0
Improved	1	—	1	
No change	2	—	2	50.0
Gout				
Greatly improved	4	—	4	90.8
Improved	5	1	6	
No change	1	—	1	9.0
Osteo-arthritis				
Greatly improved	8	2	10	72.1
Improved	3	—	3	
No change	5	—	5	27.7
Subacute Rheumatic Infection				
Greatly improved	2	2	4	100.0
Improved	—	—	—	
Total Number of Cases				
Greatly improved			37	70.6
Improved			16	
No change			20	26.6
Worse			2	2.6

Average length of stay in hospital ... ... 40 days.

—I am, etc.,

A. GORDON WATSON, M.D.Ed.

The Royal Mineral Water Hospital,
Bath, June 14th.

Facts and Fancies in Psychotherapy

SIR,—Dr. Crichton-Miller's article in your issue of June 15th (suitably named "Psychotherapeutic Clinics in Fact and Fancy") is one of these parodies of the views of psychiatrists differing from him which, coupled with pleas for tolerance, characterize the school of thought to which he belongs. Respect for Dr. Crichton-Miller's intelligence precludes the idea that he believes it to be a true presentment. To the instructed it is obviously propaganda—of a type perhaps hitherto more familiar in business and in politics than in medicine—since the more simple-minded of those to whom this propaganda was addressed might misconceive its relations respectively to fact and fancy. Some correction is called for in the interest of the clinic which I serve.

Upon my confession of faith as to the ideal formulations which will constitute the psychology of a remote future Dr. Crichton-Miller bases his fancies as to what I consider the practical requirements of the present. In the presi-

dential address to which he referred, I argued against the finality of accounting for mental disorders in terms of struggles between anthropomorphics such as the conscious and unconscious minds ; these are in fact no more than collective terms for the very events observed. I wrote:

"To my mind it seems as scientific and fruitful to demand that psychology and physiology shall be dealt with as entirely independent sequences as it would be to idealize a meteorology which ignored astronomy in which references to the earth and sun were forbidden and in which sequence and combinations of weather which were actually observed must be referred to the interaction of an entity termed 'perceptible climate' with another termed 'imperceptible climate.'"

I further said:

"Against accounts of the sequences of consciousness in terms denoting conscious experience and in these alone *as approximations* there is nothing to be said. Psychology should as far as possible be constructed in bare terms of perceptible events. When concepts are introduced, they must either be of the verifiable type or their nature as collective symbols should be declared beyond doubt. Conscious events, whether in ourselves or in others, are equally phenomena (if we disregard solipsist quibbles). Such phenomena are equally material for scientific treatment whether they appear to be immediately referable to some external source or not. A scientific psychology would regard causalistic description of the sequence of processes of consciousness and of behaviour and the attempt to correlate these two as its triple objective. Any account of such sequences would, of course, persistently represent the two sets of phenomena as empirically correlated in an unknown way. The study of behaviour is part of the triple task of psychology, and at the same time the business of the upper reaches of neurology. Here the two sciences merge and become continuous as do physics and chemistry. Further continuity and comprehensiveness demand that the explanation of the facts of behaviour, both normal and abnormal, shall be framed as far as possible as an upward continuance of those principles reached by induction and observation and experiment which account for the responses mediated by lower levels. How then do without neurology? For my part I venture to think that the ancestors of the psychology of the future will be such investigators as Hughlings Jackson, Sherrington, Head, Pavlov, and Lashley rather than Freud, Jung, and Adler.

Dr. Crichton-Miller detaches the last two sentences from their context, and by an obscure process of reasoning finds in them justification for a portrait of a neurologist dealing with a case of phobia "ophthalmoscope in hand."

The retention of remoter objectives is compatible with recognizing that symptomatic treatment of some particular kind is the best available within the limits of present knowledge. Does Dr. Crichton-Miller suppose that a pre-Banting pathologist who rejected as final such verbiage as that diabetes was due to a failure of balance between supply and consumption of sugar would have refused to treat patients by dieting them?

May I suggest for Dr. Crichton-Miller's consideration the following facts. As originally designed the Maudsley Hospital contained one room for interviewing and examining in-patients and three for dealing with out-patients. Its medical staff was to number two in addition to the medical superintendent. The existing hospital has sixteen clinical rooms for in-patients, and the out-patient department, now building, will provide twenty-three. The present staff numbers twelve whole-time and four half-time doctors, and will presently rise to twenty. If Dr. Crichton-Miller could suggest any other main purpose than psychological investigation and treatment for which this structure and staff is provided, his ingenuity would compel admiration. It is, of course, still open to him to believe that such development has occurred in the teeth of my opposition.—I am etc.,

London, W.1, June 18th. EDWARD MAPOTHER.

SIR,—There is an undercurrent of discouragement in Dr. Crichton-Miller's address on psychotherapy, as published in your issue of June 15th, which those of us who work in the same field can easily understand. The field indeed is ripe for the harvest, but the labourers are few and not all well chosen. Like him, I view with alarm the possible influx into the ranks of psychotherapists of academically trained experts with little first-hand experience of life. The elucidation of infantile complexes or maladaptations forms only the beginning of our therapy. Side by side with the analysis, or subsequent to it, comes the synthesis ; and it is only the man with a wide knowledge of life as it is lived, and who has from his own inner needs formulated a sound working philosophy, who can effectively take part in this work.

I do not think that it is merely egoism which leads me to endorse Dr. Crichton-Miller's opinion that the best psychotherapists are those recruited from the ranks of general practice. The specialists in this line to whom I take off my hat are men who have had just this experience. If lectures and study circles were organized for post-graduates of not less than five years' standing in every suitable centre, the result would not only be an increased appreciation of the need for clinics, but I believe the right men to staff them would soon be forthcoming.

Psychotherapy, even more than general medicine, is an art as well as a science. It is highly desirable that the medical student should be given some acquaintance with the science of psychology, but life itself must teach him the art.—I am, etc.,

Birmingham, June 17th. R. MACDONALD LADELL.

SIR,—Dr. Crichton-Miller, in his excellent article on psychotherapeutic clinics (*Journal*, June 15th), generously says: ". . . most of us would admit that Freud has contributed to psychopathology more than any living man." I venture to suggest that some of us might go still further, and admit that psychopathology still receives its chief contributions from the psycho-analysts. Nevertheless, I feel that in the main Dr. Crichton-Miller's criticism has much justification.

Since, like every original discovery, psycho-analysis came into being by a break with precedent, it is reasonable to suppose that the next big advance will similarly involve some innovation in technique or outlook. But here the psycho-analysts are, like the followers of every new prophet, already become so conservative or reactionary that they exclude (or, if possible, expel) from their ranks any who incline to a break with their practice or theory—irrespective of whether such a break is due to ignorance, innovation, or advance upon their now stereotyped point of view. Particularly reactionary, and contrary to the spirit of science, is their growing determination to withhold knowledge of their technique from those outside the fold.—I am, etc.,

London, W.1, June 17th. CHARLES BERG, M.D., D.P.M.

Cisternal Puncture in Cerebro-spinal Fever

SIR,—The letter from Mr. L. A. H. Snowball on the treatment of cerebro-spinal fever (*Journal*, June 8th, p. 1192) and the previous letters on the same subject from Dr. Douglas Robertson (*Journal*, March 2nd) and Dr. W. M. Feldman (*Journal*, February 16th) are interesting in view of the reference made to cisternal puncture by Dr. J. M. Kennedy in his excellent article on "The Treatment of Cerebro-spinal Fever," published in the *Journal* of April 13th (p. 756). Dr. Kennedy states:

"Some authorities advise cisternal puncture in the treatment of cerebro-spinal fever, but this method does not appear to me to have any advantage over the more simple lumbar puncture. It entails more risks, and should only be attempted by one skilled in the operation . . . in cisternal puncture the field of operation is exceedingly dangerous."

It is because I find myself in complete accordance with the views of your correspondents and so opposed to the views expressed on cisternal puncture by Dr. Kennedy that I venture to add my humble opinion to the controversy. In the latter part of 1931, when in charge of the ward for cerebro-spinal fever in Monsall Hospital, Manchester, and when cases were fairly numerous, I commenced to perform cisternal puncture. The method I used then, and which I still use, is that described by Mr. Snowball in his letter, but without combining the two methods of lumbar and cisternal puncture. A line from the glabella through the lower boundary of the external auditory meatus to the suboccipital region gives within small limits the site of a cisternal puncture and the path of the needle. Since my first attempt I have performed cisternal punctures on eighteen cases of cerebro-spinal fever, fourteen of which recovered completely, the remainder being fatal. I have never experienced any difficulty in readily obtaining cerebro-spinal fluid, nor has the method given rise to any injury, permanent or otherwise, in the patients who recovered. Of the fatal cases there was no evidence of any ill effect from repeated cisternal punctures. So much for "the field of operation" which Dr. Kennedy deems "exceedingly dangerous."

Theoretically the cisternal puncture method of withdrawing fluid and administering serum has everything to recommend it, and it would appear from the experience of correspondents mentioned above, and certainly from my own, that in practice it is a more efficacious treatment, either alone or in conjunction with lumbar puncture, than that by lumbar puncture only. Cisternal puncture, alternating day by day with lumbar puncture, together with at least one intravenous dose of serum, has been my method of treatment, and some of the recoveries, including a recent severe case in a man of 29 years, have been remarkable. Very little practice is required to become skilled in cisternal puncture, and I am of the opinion that the doctor has but to attempt it once to be convinced of its simplicity. The combined method of cisternal and lumbar puncture, with the administration of serum by the cisternal route as outlined by Mr. Snowball, is one that commends itself readily to me, and I shall endeavour to treat my next case on these lines.—I am, etc.,

East Grinstead, June 11th. R. SYDNEY DAVIDSON.

Selenium in the Treatment of Cancer

SIR,—I should like to compliment Dr. Douglas Webster on the number of irrelevant statements he has managed to compress into a letter so short, relatively. Medical textbooks should not be read with the blind faith of a religious devotee, but with critical reasoning. Sollmann and Cushny did not wish to infer what Dr. Webster has understood; the passages should be read: "The selenium compounds which we, or our proxies, have tested all show certain toxic effects administered by the methods which we employed. We would not affirm that other compounds administered by different routes would necessarily have the same effects." Both brimstone and treacle and mustard gas are sulphur compounds, but if Dr. Webster will consult his textbooks of therapeutics and toxicology he will find that the two compounds are very dissimilar.

The selenium colloid SSe is not reduced to the vitreous, or as he will call it, the metallic, allotrope in the animal or human body; such a transition would be readily observed on microscopy. Deposition of selenium in the vascular endothelium has, again, never been found in animal or man; capillary pulmonary embolism, therefore, will not occur after correct administration.

Though I did admit about twelve bungled injections each year, Dr. Webster should remember that these are spread out amongst the 3,500 intravenous injections of selenium colloids which are given annually.

Kolmer did not use this colloid; his remarks on the preparations he tested are likely to be true, for it is very easy to make toxic selenium compounds. I do not consider that selenium is either a failure or dangerous, properly employed, for it resulted in the apparent cure of 20 per cent. of ninety-three inoperable cases, given up by surgeon and radiologist—not necessarily local specialists. This work is carried out in public and is frequently inspected, some of the inspectors being people of real critical ability. Dr. Webster, a champion of the heavy dosage or knock-out methods, will probably deny that the homoeopathic dosages of radiation I give could produce these results; he will probably agree that they are not due to the calcium mixture, thyroid, or radiostoleum. Then all that is left is either suggestion or the interaction of the components of the system, of which the chief is selenium.

My patients like having injections of the colloid; they attend regularly for them, and grumble when bank holidays occasion a missed week. After injection they go home, mostly on foot or by car, and mostly carry on with their work. When the time comes for their discharge they are loath to stop attending, and a few will not stop. Not all benefit, but those who do not, seeing results in others, hope that they will ultimately. Visitors to the clinic invariably remark how well and happy-looking these patients are—and they all know the diagnosis.

The method is not for anybody; any practitioner who finds that this colloid gives frequent toxic symptoms should stop using it until he has found where he has erred. False toxicity, such as Dr. Webster describes, will give nothing but such aggravation as he narrates. He has not yet tested my method, therefore, and should not criticize on false data. Dr. Webster can, if he wishes, bring a supply of this alleged toxic substance to my clinic, with witnesses; I will have my assistants inject it from my syringes under his observation; afterwards he can stay as long as he wishes to observe that there will be no signs of toxicity.

As to the indirect action of radiation in suitable dosage, I gave some proof (*Lancet*, 1930, i, 906), and attribute the results of my system to indirect action. The present attitude of the majority of the medical profession to any apparently pathologic excrescence is to say "Cut it off." If the anatomical relations are such that the coroner would remark upon them, the next thought is, "Can we poison it?" If this is impossible the final step is, "Send it to the radiologist and ask him to kill it." This is a very primitive way of reasoning, and one not likely to be productive of progress. Though many of the profession are content with a morphine euthanasia after surgery or radiation has failed, the patients and their relatives are not so content. Cancer is closely related to the granulomata; therapeutic procedures on similar lines may well become effective in time. Though I, if I try to bowl a "googly," would probably stun an innocent bystander and not achieve what I tried to do, I do not say that such a result would follow if a good cricketer made the same attempt.—I am, etc.,

Clifton, Bristol, June 10th. A. T. TODD.

SIR,—I feel that you will not wish to give much further space to this correspondence. May I be permitted, however, to mention these points?

1. Referring to his own experience of selenium, Dr. Webster speaks of "the expenditure of a great amount of time and trouble on the part of patients and collaborators." He has treated eight cases, and on this negligible basis he seeks to dissuade other radiologists from giving the method a trial.

2. He ignores Mr. Watson-Williams's sixteen years' record entirely.

3. I repeat that, in my experience, which is not small, serious metastasis does not occur inside two years. Small recurrences on the scar are in any case of little importance; they are curable by external radium, and do not necessarily affect the patient's chances of survival. It is true that most of the cases of which I have experience have been treated by *x* rays prophylactically.

4. In vain is the snare of the fowler spread in sight of the bird; I decline to be drawn into a dosage controversy with Dr. Webster. I am advocating a trial of Todd's methods as a prophylactic: it is sufficient to point out that almost any orthodox methods may be used first by those who fear to take chances.

5. I agree that many further proofs are required. Statistics should deal with hundreds—not with figures of the order of two-thirds of a dozen.—I am, etc.,

London, W.1, June 14th. F. HERNAMAN-JOHNSON.

*** We confirm the feeling expressed by Dr. Hernaman-Johnson in his opening sentence.—Ed., *B.M.J.*

Remedies New and Old

SIR,—I agree with Dr. Vincent Norman (May 18th, p. 1053) and Dr. Dan. E. Davies (June 1st, p. 1146) that all new remedies should be subjected to some practical clinical test under some authoritative committee appointed perhaps by the B.M.A. But even then there would still be some difficulty in arriving at definite conclusions about some new remedies unless they prove to be specific for diseases, like quinine in malaria or "606" in syphilis. Again, opinions about a particular remedy may differ according to the point of view of different observers—for example, the use of tuberculin in tuberculosis has given rise to long controversies and arguments. For such divergence of opinions about a particular remedy there are several reasons.

1. The enthusiasm and personality of the observer himself will go a long way towards success with *any remedy* and "good results" will be claimed. I know a medical man who never read the *B.M.J.* except the advertisements of new preparations, so as to use the latest remedies for his patients.

2. The second factor is the enthusiasm and faith of the patient himself, especially if the particular remedy is of a spectacular nature, such as a course of injections. I know a neurotic female patient who has had hypodermic injections of "injectio ferri *B.P.*" three or four times weekly for over three years! The patient claims that she feels better, though we know that iron is too toxic to be given in sufficient therapeutic doses hypodermically, and that in the treatment of anaemia it cannot compare with the present large doses of iron given by mouth. Again, whilst I was an R.M.O. at a sanatorium a few years ago, some patients always required medicine for their night cough. On several occasions I ordered coloured sweetened water solutions for their night cough, with gratifying therapeutic results.

3. The third factor which will affect any method of treatment is the *vis medicatrix naturae*, and hence diseases for which there is no specific therapy will appear to be influenced by any remedy used, especially when used in conjunction with other methods.

4. And, finally, the effect of a remedy will be modified according to the patient's state of mind, age, constitution, environment, etc. This will specially be well shown in neurotic patients, where drugs or any physical treatment will give various results.—I am, etc.,

Highbury, N.5, June 10th. L. B. SHEINKIN, M.B., B.S.

Undulant Fever and its Synonyms

SIR,—What seems to me to be a serious error in nomenclature appears to have escaped correction. In the *Journal* of March 30th, 1935, on page 645, a clinical memorandum by Dr. Arnold Jones appears under the title "Acriflavine Bowel Instillation for Relapsing Fever (*B. abortus*)." The term "relapsing fever" should only be applied to any one of a group of acute infections caused by various species of Borrelia, the European variety by *Borrelia recurrentis* and the African variety by *Borrelia duttoni*. The *Bacillus abortus*, or, more correctly, the *Alcaligenes abortus*, is probably identical with *Alcaligenes melitensis*, and is the causal organism of undulant fever, which has many synonyms, but none of them is relapsing fever.—I am, etc.,

D. V. LATHAM, M.D.

Mwanza, Tanganyika Territory, May 28th.

Examination of Tuberculosis Contacts

SIR,—With the last paragraph of Dr. G. B. Dixon's comments on my paper I cordially agree—prevention of tuberculosis should be our main objective—and my aim was to discuss improvements in our methods of prevention.

But for that reason I was not writing of what might be done or what indeed is done occasionally, but of routine contact examination. There are numbers of child contacts in Birmingham, and Dr. Dixon surely does not claim that his routine methods of dealing with this rather vast material is clinical examination, radiography, hospital observation, bacteriological examination of sputum and faeces, and gastric lavage, though it is understandable that such a course might be wise in the case of a child legitimately suspected of pulmonary tuberculosis. If such a routine were practised the waste of time and labour would be far greater than can be reasonably conceived; but I have visited the Birmingham dispensary and sanatorium, and at that time there was certainly no such routine—no doubt Dr. Dixon likewise attends meetings and knows what is being done outside Birmingham. It would certainly be easy, as Dr. Dixon suggests, to quote cases of probably successful prevention through contact examination, but if improvement is our object these would not be really helpful.

My views as to the value of routine tuberculin tests have already been stated, but before accepting figures concerning contact infection in tuberculosis village settlements it is necessary to be sure how many of the settlers are suffering from tuberculosis, how many are suffering from infective tuberculosis, and then to review the children individually with some care. In this instance a tuberculin test might be valuable, and I seem to recollect that Dr. McDougall of Preston Hall has found a higher incidence of positive reactors among the children there resident than occurs in the average community.

With the concluding sentence of Dr. Dixon's penultimate paragraph—that we should all do our utmost to improve environmental conditions—everyone would also agree. It

was my wish to suggest innovations rather than to re-plough land already well tilled.

Dr. R. D. B. Wright of Hull says I am inefficient, though it is true he includes in his condemnation all other tuberculosis officers. I have never had the pleasure of meeting Dr. Wright personally, but in these days of motor cars Hull is not very far away; perhaps he will come down and see me some time, and take the opportunity thus provided of confirming his belief.

If it was Dr. Sutherland's three years as a tuberculosis officer which taught him that the injection of tuberculin raises the immunity to tuberculosis 1,000,000 times they were indeed three fruitful years. The statement that 10 per cent. of positive reactors became negative within five years came from Austria (ten out of ninety-seven). It is to some extent confirmed by the paper of Drs. Ernest Lloyd and Macpherson, who found 4 per cent. of 303 positive reactors became negative from one and a half to two years. I believe that tuberculin tests are of no real utility except in certain exceptional cases or as part of an epidemiological investigation. Dr. Sutherland reads me another homily, this time from Dr. Stobie. I know Dr. William Stobie and appreciate the value of his warning. And Dr. Sutherland concludes: if a thing is worth doing at all it is worth doing well. Quite so. Let us continue—a stitch in time saves nine—certainly. A bird in the hand is worth two in the bush—truly. But can we now abandon the hurling of moral platitudes, lay aside unnecessary animosity, and consider soberly how best to improve our methods of combating tuberculosis?

Most of us would fully agree with Dr. Burton Fanning on the importance of a family predisposition to tuberculosis, but special consideration of this factor was outside the scope of my paper.

Dr. Agnes McGregor does not give the numbers of necropsies she has performed on children with tuberculous meningitis, nor the period covered by that research. In my own area (a semi-rural population of something under 200,000) there are but few deaths from that cause—say two or three each year—usually infants, and the diagnosis sometimes none too certain. In a genuine case it is usually easy to ascertain the source of infection, and I do not think tuberculin testing or radiography would save these infants but rather obedience to the principle that open cases of tuberculosis shall not be permitted contact with young children. I have not advocated wholesale radiography of children to detect lesions, important or otherwise, but that attention should rather be directed to the adult carrier and young adult contact, and if this is done, many more infants will be saved from meningitis than would be achieved by any search, however meticulous, among the infants themselves.—I am, etc.,

Paignton, June 13th. ERNEST WARD.

*** This correspondence is now closed.—ED., *B.M.J.*

The Osteopathic Lesion

SIR,—In his picture of the *modus operandi* of the celebrated osteopathic lesion, Dr. Kelman Macdonald has done little to delineate a precise feature. It would be interesting and instructive were he to produce slides in demonstration of his contentions. Failing micro- or macro-scopic evidence to support his views, one is forced to regard them as conjecture evolved to sustain a theory.

Why should the structures supplied by nerves passing through this lesion themselves mirror the condition symbolic, symptomatic, or characteristic of the osteopathic lesion? If, as he states, in the fifth feature of the syndrome a fibrosis results, will not this contractile tissue destroy and change the histological structure of the part affected? If so, the transition of educated parenchyma into coarse and mere physiological cement must be permanent, and its purpose immutably in abeyance. How osteopathy could exactly locate the minute pathological entity is difficult to comprehend, but having done so how manipulation can restore its ante-morbid form and function is a severe tax on credulity—to say nothing of the diseased areas concurrently affected which the osteopath would rejuvenate.—I am, etc.,

JOHN SHIEL, L.R.C.P., L.R.C.S.,
Dublin, June 10th. Barrister-at-Law.

The Services

LEISHMAN MEMORIAL PRIZE

Major H. T. Findlay, R.A.M.C., has been awarded the Leishman Memorial Prize for the year 1934, consisting of a silver medal and a sum of £30, for his work in the interests of military pathology. This prize is awarded annually for the best piece of work in any branch of medicine, surgery, or allied sciences, or in connexion with the general duties of the Royal Army Medical Corps, by an officer of the R.A.M.C. or Army Dental Corps, or by an officer removed from either of these corps but still on the active list.

ALEXANDER MEMORIAL PRIZE

Major T. O. Thompson, R.A.M.C., has been awarded the Alexander Memorial Prize for the year 1934, consisting of a gold medal and a sum of £40, for his work in the interests of military hygiene. This prize is awarded annually to the officer of the Royal Army Medical Corps who has, by professional work of outstanding merit, done most to promote the study and improvement of military medicine, military surgery, military hygiene, or military pathology.

NORTH PERSIAN FORCES MEMORIAL MEDAL

Captain P. Shannon, I.M.S., has been awarded the North Persian Forces Memorial Medal for the year 1934 for his paper on "A Study of Trachoma in Baluchistan," published in the *Indian Medical Gazette*, December, 1934. This medal is awarded annually for the best paper on tropical medicine or hygiene published in any journal during the preceding twelve months by a medical officer, of under twelve years' service, of the Royal Navy, Royal Army Medical Corps, Royal Air Force, Indian Medical Service, or of the Colonial Medical Service, provided the Memorial Committee considers that any of the papers published has attained a standard of merit justifying an award.

DEATHS IN THE SERVICES

Fleet Surgeon William Edward Home, O.B.E., R.N. (ret.), died at Southborough, Kent, on June 12th, aged 74. He was educated at Rugby and at Edinburgh University, where he graduated B.Sc. in 1882, M.B., C.M. in 1885, and M.D. in 1895; also taking the M.R.C.P.Ed. in 1901 and the D.P.H. of the Royal College of Physicians, Edinburgh, in 1907. He entered the Navy as surgeon on August 20th, 1885, became staff surgeon in August, 1897, fleet surgeon on August 20th, 1901, and retired on November 1st, 1911. His first service in the Navy was under two famous men. In December, 1885, he was appointed to H.M.S. *Excellent*, the gunnery school at Portsmouth, then commanded by Captain John (afterwards Lord) Fisher, with Lieutenant Percy Scott, afterwards Admiral Sir Percy Scott, as first lieutenant. In August, 1893, he served as surgeon of H.M.S. *Swallow*, and landed with a naval brigade at Vitu, Zanzibar, receiving the African general service medal with a clasp; in 1900 he served in the China War as medical officer of the transport *Jelunga*, and got the China medal. During the war of 1914–18 he served in the R.A.M.C. as temporary major. He was the author of *Merchant Seamen, their Diseases and Welfare Needs* (1921), and was a frequent contributor to the *Times*, the *Lancet*, and the *British Medical Journal* of articles on nautical hygiene. He joined the British Medical Association in 1888, and was a member of the subcommittee on the Health of Merchant Seamen (1928 to 1931).

Obituary

CHARLES ROBERTS, F.R.C.S.

Honorary Consulting Surgeon, Manchester Royal Infirmary and Royal Manchester Children's Hospital

Charles Roberts, the son of Samuel Roberts, was born at Colnbrook, Slough, in 1874. His medical education was received at the Middlesex Hospital, at which he entered with a scholarship and exhibition. He qualified for practice with the M.R.C.S., L.R.C.P. diplomas in 1896, taking also the M.B., B.S. degrees of London University in the same year, with honours. In the intermediate examination he had gained first-class honours, qualifying for a gold medal in anatomy and honours in materia medica. After qualifying he filled several resident posts in his hospital: house-surgeon, house-physician, obstetric house-physician, casualty officer.

In 1899 he obtained the diploma of F.R.C.S.Eng. He then saw active service during the Boer War, in which he was civil surgeon to the South African Field Force and received two medals.

In 1901 Roberts was appointed resident surgical officer to the Manchester Royal Infirmary—a rare distinction for one trained in another school of medicine. During his tenure of this post he fully bore out the promise of his successful academic career, and proved to be a sound and capable surgeon and good administrator. After two years in this most valuable and responsible post he began consulting practice in Manchester, and was appointed honorary surgeon to the Royal Children's Hospital, Pendlebury, which had become so well known by the work of Henry Ashby and George Arthur Wright, both also from London schools. Roberts edited the surgical section of the last edition of Wright and Ashby's monograph on diseases of children. From 1905 to 1910 he broadened his surgical experience in the post of surgical officer and medical superintendent at the Christie Cancer Hospital. In the following year he was appointed honorary assistant surgeon to the Manchester Royal Infirmary, and continued on its acting staff until last year, when he attained the age limit of 60 and was appointed honorary consulting surgeon, a similar post to which he also held at the Children's Hospital. When the great war broke out Roberts was off to France at once in August with the first contingent of troops, being attached to the 18th Field Ambulance. After returning home he continued on the surgical staff of the Second Western General Hospital. He was a lecturer on clinical and practical surgery in the University of Manchester, and was very popular with the students for his attractive and capable teaching methods and his general ability.

Charles Roberts never tried to be a "showman" in his surgical work, but he was remarkably sound, both in his clinical judgement and in his operating. Modest about his own achievements, and tolerant of the views of others, he was not a frequent contributor to surgical literature, but when he wrote he always had something worth recording. Perhaps the subject with which his name will be most permanently associated is that of extroversion of the bladder. His wide experience of this condition while he was on the active staff of the Royal Manchester Children's Hospital enabled him to devise an improved method of transplanting the trigone of the bladder into the rectum, and the technique of this operation he described in the medical journals some years ago. But it is as a teacher rather than as an originator of surgical methods that he will be best remembered. He was at his happiest in the informal atmosphere of the out-patient department, or of the ward round with his dressers. He could always get the best out of a student, and the secret of this was his imperturbable good humour and lack of any sarcasm or intellectual pride. He had a very unusual and striking gift in attracting the confidence of his small patients, and he was very much liked and respected by his house-surgeons for his sympathetic, human, helpful nature.

He took a keen part in the scientific society work of Manchester, and was a member of the Royal Society of Medicine and of the Association of Surgeons of Great Britain and Ireland. When the British Medical Association held its meeting in Manchester in 1929 he was a vice-president of the Section of Surgery.

In his hours of ease he was somewhat of a poultry fancier, and spent much time in looking after his fowls and in his fine garden. He married Ethel Annie Nicholson, one-time lady superintendent at Pendlebury Hospital, who predeceased him. A son and a daughter are following as students in his footsteps.

After a long illness bravely borne Dr. WILLIAM ADAM BRECHIN died at Carnoustie on May 31st. He was a son of ex-Baillie Matthew Brechin of Glasgow, and was educated at Glasgow High School, where he was "dux" in modern languages in 1908. Proceeding to Glasgow University, he graduated M.B., Ch.B. in 1913, and was a resident in the Royal Infirmary under Mr. William Rutherford and Dr. John Henderson. On the outbreak of war in August, 1914, he volunteered, and was attached to the Notts and Derby Regiment. In 1915 he served in Egypt, and took part in the Senussi Campaign, and was attached to the Duke of Westminster's expedition in the Tara. He afterwards served in Palestine, and was finally attached to the Indian Hospital, Kintara. For his work in Egypt he was awarded the Military Cross, and was twice mentioned in dispatches. His marriage took place when on leave in 1918 to Miss Jessie McOnie, Buchlyvie. In 1920 he retired from the R.A.M.C. with the rank of major, and early in 1921 he took over the practice of Dr. Norman J. McKie in Newton Stewart. In 1925 trouble which had threatened in Egypt developed, and he was forced to retire from practice. He proceeded to South Africa to try to regain his health. Last year he returned to this country, intending to go back to South Africa after visiting his people, but was unable to do so. He bore his long illness with great patience.

The death occurred at Greenway Court, Hollingbourne, on April 26th of Dr. J. TEMPERLEY GREY, O.B.E., who for many years practised at Lenham and Harrietsham. He received his medical education at Bristol, and qualified M.R.C.S., L.R.C.P. in 1888. Dr. Grey was a man of quiet and unassuming manner, and his genial and kindly disposition won him many friends and inspired hope and confidence in those who became his patients. He held the post of medical officer of health to the Hollingbourne Rural District Council. During the war he converted his own house into a V.A.D. hospital, as well as the village hall at Lenham. A large number of wounded passed through his hands. For this service he was awarded the Order of the British Empire.

Dr. JOHN STOKES of Sheffield, who died on June 5th, in his seventieth year, was a distinguished Freemason as well as a practical exponent of medicine and the law. His student days had been spent in Sheffield and Durham; he graduated M.B., B.S. of the latter university in 1887, and in the same year obtained the diploma M.R.C.S. Two years later he became a licentiate in sanitary science, and in the following year proceeded M.D. His first medical appointments were those of ophthalmic assistant to the Newcastle-on-Tyne Royal Infirmary, house-surgeon to the Firvale Hospital, and resident surgeon to the Salford Royal Hospital. His outlook then widened further. He took the D.P.H. in 1904, graduated M.A. in Sheffield in 1909, B.Sc. in London in 1911, and LL.B. in 1912. In 1906 he had been admitted as Barrister-at-law at the Inner Temple.

In 1923 he was elected a member of the Royal College of Physicians, London. He was physician to the Children's Hospital, Sheffield, and was actively associated with the Jessop Hospital for Women as well as with the work of the Cathedral and the University of Sheffield. He held a commission in the R.A.M.C.(T.), and was a member of the Sheffield Medico-Chirurgical Society, the Medico-Legal Society, and the British Medical Association. He was a representative at the Annual Meeting at Aberdeen in 1914. During the last four years of his life he had been Deputy Provincial Grand Master of the Provincial Grand Lodge of Yorkshire (West Riding), and representatives of the Grand Lodge of England and of numerous Lodges and Chapters attended his funeral in Sheffield Cathedral. Dr. Stokes was one of the founders of the Hunter Archaeological Society, a keen walker, and a deep student of botany and geology, as well as of Freemasonry.

Dr. JOHN PRATT, D.S.C., who lost his life in a boating accident off the Cumberland coast on May 26th, had been for many years medical officer of health for Millom, in that county. Only a few weeks before his death he descended, by means of short lengths of ladder, the mine shaft at Hodbarrow to rescue four miners who were trapped below when the cage fell to the bottom of the pit shaft. After that he was seriously ill with pneumonia, but had returned to work. Dr. Pratt studied medicine at Queen's College, Cork, and in Dublin, qualifying L.R.C.P. and S.I. in 1904. During the war he served afloat as a temporary surgeon R.N., and won the Distinguished Service Cross. In civilian life he had acted as medical superintendent of the Millom and Bootle Infectious Diseases Hospitals, and medical officer to the Hodbarrow Hospital. He was a member of the Society of Genealogists, and had published a work on the "Pratt Family."

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

Dr. C. H. Whittle has been appointed as delegate from the University to the ninth International Congress of Dermatologists, to be held in Budapest from September 15th to 22nd.

Dr. C. S. Myers, F.R.S., principal of the National Institute of Industrial Psychology, and formerly a Fellow of the College, has been elected an Honorary Fellow of Gonville and Caius College.

R. I. N. Greaves, B.A., M.R.C.S., has been elected a Fellow of Gonville and Caius College from October 1st, 1935, on his appointment as University Demonstrator in Pathology and College Director of Medical Studies.

At a congregation held on June 14th the degrees of M.B. and B.Chir. were conferred on C. A. de Candole.

UNIVERSITY OF LONDON

At a meeting of the Senate held on June 12th, with the Vice-Chancellor, Professor L. N. G. Filon, C.B.E., D.Sc., F.R.S., in the chair, Mr. H. L. Eason, C.B., C.M.G., M.D., M.S., superintendent and senior ophthalmic surgeon of Guy's Hospital, was elected Vice-Chancellor for the year 1935–6.

UNIVERSITY OF SHEFFIELD

At its meeting on June 14th the University Council expressed its congratulations to Emeritus Professor Arthur Hall, M.D., on the honour of knighthood.

The Council appointed Dr. Francis Davies as professor of anatomy, in succession to Professor C. J. Patten, who is retiring.

The Council received with regret the resignation by Dr. D. C. Harrison of his post of lecturer in pharmacology, on his appointment to the chair of biochemistry at Queen's University, Belfast.

UNIVERSITY OF BRISTOL

The following candidates have been approved at the examinations indicated:

M.D.—J. F. Coates (with distinction), H. F. M. Finzel, J. P. P. Stock.

FINAL M.B., CH.B.—*Section I, including Forensic Medicine and Toxicology:* R. D. Caesar, Coralie W. Rendle-Short, P. Zimmering. *Section I only:* Centa Alkan, Ursula G. Hewitt. *Section II:* Kathleen G. Brimelow (second-class honours), S. D. Loxton (second-class honours, with distinction in surgery), F. C. Collingwood, A. E. Jowett, B. Ridgway, A. W. Woolley.

UNIVERSITY OF GLASGOW

The following candidates have been approved for the higher degrees in medicine:

M.D.—(1) With honours: Eleanor Badenoch, T. Nicol. (2) With high commendation: W. Gilmour, Jessie W. Ogilvie, J. Wyllie.

CH.M.—T. J. B. A. MacGowan (with commendation).

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A meeting of the Council of the Royal College of Surgeons of England was held on June 13th, when the President, Sir Holburt Waring, Bt., was in the chair.

Mr. James Walton was congratulated on the appearance of his name in the Honours List as a Knight Commander of the Royal Victorian Order.

The President presented to the College the golden key with which he performed the opening ceremony of the Royal Australasian College of Surgeons at Melbourne.

Mr. Garnett Wright of Manchester University was elected to the Court of Examiners, and Mr. Herbert Cecil Malleson, M.R.C.S., and Mr. Harry Stobie, M.R.C.S., were elected to the Board of Examiners in Dental Surgery (Dental Section).

Examiners

The following examiners were elected for the ensuing year:

Fellowship.—Anatomy: Grant Massie, P. N. B. Odgers, H. H. Woollard, R. B. Green. *Physiology:* G. A. Buckmaster, D. H. de Souza, Samson Wright, H. Hartridge.

Under the Conjoint Board.—Elementary Biology: G. P. Mudge, C. C. Hentschel, A. J. Grove, W. A. Cunnington. *Anatomy:* E. P. Stibbe, Lambert C. Rogers, A. J. E. Cave. *Physiology:* A. St. G. J. McC. Huggett, Samson Wright. *Midwifery:* L. C. Rivett, M. Donaldson, A. C. Palmer, V. F. Lack. *Pathology:* C. E. Shattock, R. Davies-Colley, J. McIntosh, W. Bulloch. *Diploma in Public Health:* Part I, C. C. Okell; Part II, James Fenton. *Diploma in Tropical Medicine and Hygiene:* Pathology and Tropical Hygiene, W. P. MacArthur; Tropical Medicine and Surgery, G. Carmichael Low. *Diploma in Ophthalmic Medicine and Surgery:* Part I, C. B. Goulden, D. L. Davies; Part II, R. F. Moore. *Diploma in Psychological Medicine:* F. L. Golla. *Diploma in Laryngology and Otology:* Part I, E. Musgrave Woodman, S. R. Scott; Part II, T. B. Layton. *Diploma in Medical Radiology:* Part I, J. M. Woodburn Morison; Part II, J. H. Douglas Webster.

Dental Surgery (Surgical Section).—R. J. Howard, C. E. Shattock, C. P. G. Wakeley, P. H. Mitchiner, E. G. Slesinger, R. M. Vick.

The President was elected as the representative of the College on the governing body of the British Post-Graduate Medical School.

Dr. John Beattie, conservator of the museum, was appointed to represent the College at the celebration of the third centenary of the Muséum National d'Histoire Naturelle, to be held in Paris from June 24th to 29th.

The Council accepted with grateful thanks the valuable gift of the bust of Sir Buckston Browne, by Dr. A. Hope Gosse.

It was reported that Dr. William Bradley Coley of New York would attend the meeting of the Council on October 10th to be made an Honorary Fellow, and that he would also deliver a lecture at 5.30 p.m. on that day.

Diplomas

Diplomas of Fellowship were granted to the following forty-five successful candidates at the recent examination:

R. V. Powell, J. A. Cholmeley, G. H. Morley, W. R. Winterton, D. A. Beattie, J. D. Rose, J. Leedham-Green, H. S. Morton, M. A. Robertson, R. W. C. Murray, H. Agar, W. C. Barber, J. D. H. Bird, H. R. I. Wolfe, J. E. M. Ayoub, P. H. R. Ghey, E. J. Smith, W. F. Nicholson, I. G. Robin, K. L. Buxton, S. H. Wass, T. S. Heslop, D. Ll. Griffiths, N. R. Wyndham, J. C. Balzer, F. D. Burke, B. W. Buttsworth, J. C. R. Hindenach, R. N. Howard, C. R. Lambert, A. McDowall, A. C. McEachern, J. N. Madan, F. D. Murphy, D. V. Nadkarni, R. P. Osborne, M. M. Pandya, R. M. Rawle, J. L. Scholes, A. K. Sen, S. L. Spencer, R. Strang, T. G. Swinburne, H. A. Watson, D. Wilkie.

Diplomas of Membership were granted, jointly with the Royal College of Physicians, to J. M. Cribb and Annys M. Cusack.

A Diploma in Anaesthetics was granted, jointly with the Royal College of Physicians, under the special conditions of the regulations for the diploma, to the following:

A. S. Daly, W. H. Featherstone, C. L. Hewer, J. B. H. Holroyd, A. D. Marston, Z. Mennell, A. J. O'Leary, H. Sington, G. F. R. Smith, W. S. Sykes.

Recognition of Hospitals

The following hospitals were recognized for the Final Examination for the Fellowship:

Birkenhead General Hospital (senior house-surgeon); St. Luke's Hospital (resident surgical officer and three house-surgeons); (three house-surgeons); Chesterfield and North Derbyshire Royal Hospital (resident surgical officer and three house-surgeons); Coventry and Warwickshire Hospital (four house-surgeons); Derbyshire Royal Infirmary, Derby (for one year) (three senior house-surgeons); Dewsbury and District General Infirmary (first house-surgeon); Herefordshire General Hospital, Hereford (resident medical officer); East Suffolk and Ipswich Hospital, Ipswich (first and second house-surgeons); Mill Road Infirmary, Liverpool (senior resident surgical officer); Walton Hospital, Liverpool (senior resident assistant medical officer for surgery); National Temperance Hospital (resident medical officer and one house-surgeon); Northampton General Hospital (temporary recognition) (two house-surgeons); North Staffordshire Royal Infirmary, Stoke-on-Trent (for one year) (three house-surgeons); Royal Albert Edward Infirmary, Wigan (resident surgical officer and first house-surgeon); General Hospital, Adelaide (house-surgeons); General Hospital, Auckland (house-surgeons); Christchurch Hospital (house-surgeons); Dunedin Hospital (house-surgeons); Melbourne Hospital (house-surgeons); Alfred Hospital, Melbourne (house-surgeons); St. Vincent's Hospital, Melbourne (house-surgeons); Perth Hospital (house-surgeons); Sydney Hospital (house-surgeons); Prince Alfred Hospital, Sydney (house-surgeons); St. Vincent's Hospital, Sydney (house-surgeons); General Hospital, Wellington (house-surgeons).

The University of Andhra was also recognized for the F.R.C.S. examination.

Examinations for the Diploma in Gynaecology and Obstetrics will be discontinued after the examination in October.

It was decided that part of the examination for the L.D.S. should be held at the Royal College of Surgeons instead of at Queen Square.

A Primary Fellowship Examination will be held in Australia at the end of 1937.

Mr. Wakeley was appointed to examine at the Primary Fellowship Examination to be held at Calcutta in December, in place of Professor W. E. Le Gros Clark, who is unable to take part in the examination there.

A reception will be held at the College on the evening of July 28th, 1936, in connexion with the first Empire Dental Meeting.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS

The following candidates have been admitted Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow: David Fyfe Anderson, Christian Melville Fleming, Evelyn McPherson, Ian Scott Smillie, Frank Lyth.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

Captain Crookshank has been appointed Secretary for Mines; Capt. Euan Wallace, Under-Secretary for Home Affairs; Mr. R. S. Hudson, Minister of Pensions; and Colonel Muirhead, Parliamentary Secretary to the Ministry of Labour.

Parliament reassembled on June 17th. During the week the House of Lords discussed the Government of India Bill on second reading. The House of Commons was in Committee on the Finance Bill, and also considered the Estimates of the Education and Dominions Ministries.

The Medical M.P.s received an invitation to lunch with the Director-General of Army Medical Services at Millbank on June 19th.

In the House of Lords on June 17th, the Superannuation Bill, which has passed the House of Commons, was, on the motion of Earl Stanhope, read the second time. The St. Bartholomew's Hospital Bill was also read a second time in the House of Lords.

The annual report for 1934 of the Chief Inspector of Factories and Workshops was laid on the Table of the House of Commons on June 17th.

Increasing Population of India and Food Supplies

The third reading of the Government of India Bill was moved in the House of Commons on June 4th by Sir SAMUEL HOARE. The debate was resumed on June 5th, when Sir FRANCIS FREMANTLE, taking up a previous remark by Mr. Churchill, said the increase of the Indian population was the real difficulty. Between 1921 and 1931 it increased by 34,000,000, whereas the main crops on which the people depended for their food only increased by 1,500,000 tons yearly—practically nothing on which to support the 3,500,000 persons added to the population each year. There was resulting deterioration in physique, and the vital statistics were not comforting. That barometer of the health of the people—tuberculosis—was increasing, although India had all the advantages of central government, and although the work of the Indian Medical Service and of the nursing and hospital services had been beyond praise. The best opinion of those who had charge of Indian administration was that British administration could not take the action necessary, because that action must go to the roots of the habits of the people—through caste prejudices and the religious customs. The Indian people must be brought to realize the evils of such things as child marriage—the evil of women being married and having their first children at the average age of 16½, and having on the average six children before the age of 30. Until that could be stopped India would have an ever-increasing population, with little or no increase of nutrition. Such things could only be dealt with by the people themselves, and to secure this the people must be brought face to face with the responsibility. In certain parts of India administration would deteriorate as a result of self-government, but Parliament must face that.

Mr. LANSBURY and Sir THOMAS INSKIP closed the debate, and the Bill was read a third time by 386 to 122.

Education Estimates

The Importance of Physical Training

In committee of the House of Commons, on June 17th, Mr. RAMSBOTHAM introduced the Education Estimates. He said it was important to secure that the physical training of school children was as thorough as possible, and the Board of Education was giving very close attention to this matter. In the elementary schools every child was supposed to have regular periods of physical training. The success of the system, or a great deal of its success, depended on a teacher, and in the teachers' training colleges, as distinct from the university training departments, every student had a personal, as well as a professional, training in this subject. But, if our system of physical training was to be efficient, local education authorities should have their own organizer of physical training. Without the help of these he was confident that the recent marked progress in the senior schools, particularly in those schools where there was in-door accommodation for gymnastics, could not have been made. In the areas where a competent organizer had obtained the co-operation and confidence of the teacher there had been an obvious and marked improvement in the health, discipline, and alertness of the children. In the secondary schools, especially boys' secondary schools, by no means enough time was devoted to physical training.

Viscountess ASTOR asked how many local education authorities had organizers. She said she had an idea that only about one-third had them. Mr. RAMSBOTHAM said that Lady Astor was correct. The figure was, roughly speaking, 100 out of 316. Mr. COVE: Physical education goes on without them.

Mr. RAMSBOTHAM said that one reason why enough time was not devoted to physical training in secondary schools for boys was the demand made by other subjects in the curriculum. A second reason was that too many of the teachers in boys' secondary schools were inexpert and unqualified to give the training. He very much hoped that they would find it possible to reinforce their ranks from the Carnegie Physical Training College at Leeds, and that the university training departments would give attention to this very important matter and supply the secondary schools with more teachers qualified to give instruction in this subject.

A Central Council for Physical Training

Then there was the vast section of young people who had left school. There was great scope for the organizing of physical training for these young people. Besides their work for the school children, could not the organizers do a great deal to encourage and supervise physical training activities

among those who had left school? Should they not be valuable as the recognized guides and advisers for the community as a whole, and for the voluntary organizations in matters relating to gymnastic training and physical recreation? The Prince of Wales's appeal on behalf of the King's Jubilee Trust Fund had aroused great national interest in this matter, and the British Medical Association had set up a strong committee to consider it. The Press was drawing attention to it, but anything like full success was quite impossible without the requisite teachers and leaders. There were several excellent physical training colleges for women, but for men we needed more Carnegie colleges and more qualified teachers and more organizers. He hoped that those local education authorities which had not yet appointed organizers would consider the advisability of doing so. He was certain that, broadly speaking, the cost would not be great ; it would be inconsiderable compared with the medical and remedial expenditure which would be saved. An important body had been formed under the patronage of the King and Queen to act as a Central Council for Physical Training. It was entirely non-official, and comprised representatives of nearly every important youth organization in the country. He felt sure that great help and advice would be given by this central body.

Increased Expenditure on Free Meals

It was not much good training the mind or the body if the body was ill nourished. That, of course, was recognized in the Education Act, but, nevertheless, there was a very small percentage of malnourished children in the country, and probably a larger percentage of children who were undernourished. This year the Board had estimated for a higher expenditure on school meals and the school medical service than ever before. In 1931 the expenditure worked out at 17s. 2d. per pupil, and it was estimated that this year it would amount to 19s. 11d. In November, 1931, when the Government took office, 138 out of 316 local education authorities were exercising their power to provide meals. Last December that figure had increased to 205. Broadly speaking, the exceptions to-day consisted of prosperous seaside resorts, small country towns, and certain rural areas. Where, in the Board's judgement, steps of that kind were needed in urban areas it had not failed to take up the question with the local authorities. Between November, 1931, and March, 1935, the number of children receiving free meals of all kinds had doubled, and the number receiving free milk was nearly five times as great as in November, 1931. While encouraging the provision of meals and milk where needed, the Board was continuing, and proposed to continue, the policy of urging local education authorities to limit this provision to children found on medical examination to be under-nourished and therefore unable to profit by their education. He wished to make it clear that this was emphatically not a policy of economy, as in many areas the selection of children by means of nutrition surveys would result in the free feeding of a larger number. But they could not accept the argument that all poor children should be fed free because they must, of necessity, be under-nourished. Under-nourishment was by no means invariably associated with poverty. Many children of poor parents were well nourished. In any event, the relief of poverty was a duty of bodies other than local education authorities, whose functions should be limited to seeing that no child through lack of food was unable to take advantage of the education provided for it. The Board had laid down that the slightest symptom of subnormal nutrition justified the placing of children on the feeding list, and where the head teacher considered that there was evidence of subnormal nutrition a child should receive free meals or free milk provisionally, pending review by a medical officer. He knew that this policy had been misrepresented in certain quarters. He was convinced that it was a sound policy to associate the treatment of subnormal nutrition as closely as they could with the school medical service. He was also convinced that educational funds should be used for educational purposes, and not to supplement assistance which parents might or might not be entitled to receive from other sources.

Apart from the supply of free meals and free milk by local education authorities, there was the voluntary scheme administered by the Milk Marketing Board, with the assistance of a grant from the Government, whereby milk was provided at 1/2d. for one-third of a pint to school children. Before October, 1934, the Board estimated that 900,000 children were receiving milk under voluntary schemes sponsored by the National Milk Publicity Council. In March last, as a result of the Government's assistance and the help of the Milk Marketing Board, the number of children receiving milk had grown to 2,750,000.

Another very important subject was the question of school canteens. There were excellent arrangements in certain rural areas for providing children with hot meals on payment at school canteens, and thereby children were able to get nourishing food at a low cost. It was also possible to teach them some elementary facts about dietetics and the right use and selection of food. Some urban authorities might do well to consider whether they should not spend more freely on these school canteens and make it possible for cheap and nourishing meals to be provided, at any rate for children whose parents wished them to have a midday dinner in that way. Of course, this suggestion was quite distinct from the feeding of under-nourished children ; at the same time, the canteen system might profitably be developed to a greater extent.

In reply to Lady Astor last year he had said that where nursery schools were found to be necessary the Board was not likely to be adamant. Since making that statement the Board had recognized six more nursery schools for grant, and during the same period had approved proposals for another six. There were a number of other proposals under consideration, and no doubt most of them would be sanctioned. In the same period sanction had been refused to not more than two or three proposals. He again emphasized that the Board had no desire to discourage the provision of nursery schools in those areas where the social conditions rendered them desirable and justifiable.

During the subsequent debate several members criticized the sanitary condition of some schools. The discussion on the Education Estimates was adjourned.

Health Situation at Quetta

In a statement to the House of Commons, on June 17th, about the Quetta earthquake Mr. BUTLER said the Public Health Commissioner, Lieut.-Colonel Russell, I.M.S., was proceeding to Quetta to investigate the health situation in consultation with the local medical and public health authorities. Mr. B. M. Staig, I.C.S., Financial Adviser, Military Finance, had been appointed Earthquake Commissioner to co-ordinate measures of relief and to advise Government on the many miscellaneous problems that will arise. Supplies of all kinds had, fortunately, been adequate. Some 30,000 Indians and 6,000 Europeans, including troops, had been fed in the refugee camps. Evacuation was steadily proceeding. Arrangements had been made for the evacuation of between 700 and 800 members of European families, who would be accommodated at Karachi pending provision of passage. Salvage operations were commenced on June 4th, but had to be suspended for hygienic reasons, and in the interests of public health the city remained closed under guard. Such operations as were consistent with safety and public health were being carried on.

University of Durham Bill

In the House of Lords, on June 17th, Viscount HALIFAX moved the second reading of the University of Durham Bill. He explained that its purpose was to make new statutes for the University of Durham in general accordance with the recommendations of the Royal Commission. So far as he knew, these recommendations, although far-reaching, appeared to have been very generally welcomed, as likely to afford a remedy for the existing defects. They had been under consideration by the Government, which had adopted the recommendation that statutory commissioners should be set up to make statutes in general accordance with the recommendations of the Royal Commission. The Bill followed closely both the University of London Act, 1926, and the similar Act that dealt with the Universities of Oxford and Cambridge in 1923. It did not attempt to give legislative force to any of the recommendations of the Royal Commission. The gist of it was that the commissioners should make statutes in general accordance with those recommendations, subject to any

modifications which might appear to them to be expedient. Ample opportunity would be afforded for hearing representations from interested parties, and the commissioners would be bound to provide facilities for the making of such representations before they passed any statutes. The Commissioners, when they had made their statutes, had to submit them to the Privy Council, and they would, in due course, be laid before both Houses of Parliament. At all these stages there would be opportunity for interested parties to make representations.

Lord STRABOLGI said that the Opposition did not wish to oppose the Bill.

The Bill was read a second time.

Detention of Criminal Lunatics in Scotland

The second reading of the Criminal Lunatics (Scotland) Bill was moved in the House of Commons on June 6th by Sir GODFREY COLLINS. The Bill had already passed the House of Lords. Sir Godfrey explained that the building in Perth to which Scottish criminal lunatics were sent was inadequate. The Government was anxious to proceed with the erection of a new building at Carstairs as a State institution for defectives. Legislation was necessary to enable the criminal lunatics now detained at Perth to be detained at some other place. Mr. NEIL MACLEAN took exception to Clause 4, subsection 2, which runs:

> "Where it is certified by two duly qualified medical practitioners, within fourteen days before the expiry of the sentence imposed on any person detained in the criminal lunatic asylum in pursuance of the last foregoing subsection, that such person is insane, that he cannot be set at liberty without danger to the public or to himself, and that it is advisable that he should be detained after the expiry of his sentence in the criminal lunatic asylum rather than in any other asylum, the Secretary of State may order that he be detained accordingly, and thereupon such person may be dealt with in like manner in all respects as if such order were an order for his custody until His Majesty's pleasure be known."

Mr. Maclean protested that there should be periodical re-examination of the individual. Sir Ian Macpherson, Mr. Milne, and Mr. Buchanan also objected to the same provision, though Mr. Milne conceded that it had been the law of Scotland since 1862. Discussion was still proceeding when the hour for the rising of the House was reached, and the motion for the second reading was adjourned.

Chemical Defence Experiments on Animals

On June 18th Mr. DOBBIE asked the Financial Secretary to the War Office the number and the kind of animals used for poison gas experiments at Porton, Cambridge, and other places in this country in the years 1925 to 1935, how many perished immediately, and how many died within one month. Mr. HACKING said that during the years in question chemical defence experiments with animals were carried out only at the Chemical Defence Research Establishment, Porton, and up to 1931 at the Physiological Laboratory, Cambridge. Information was not available precisely in the form asked for by the hon. member, but he was circulating a statement showing the numbers and kinds of animals used in each year for these experiments, and the numbers which died, or were painlessly destroyed as a result of the experiments. Since 1929 a large proportion of the animals used were for experiments in connexion with the safety of industrial employees. A long tabular statement shows that at Porton experiments were carried out on rabbits, rats, goats, guinea-pigs, cats, monkeys, mice, horses, canaries, pigeons, fowls, and sheep. In the ten years in question 1,737 rabbits were used and 1,278 died or were painlessly destroyed; two monkeys, twenty-five horses, and two sheep were used, but none of them died or was destroyed.

London Refuse.—On June 18th Mr. SHAKESPEARE informed Mr. McEntee that the Advisory Committee on London Refuse had made an interim report dealing with the disposal of house and trade refuse, and copies were available at the office of the Metropolitan Boroughs Standing Joint Committee. The committee was now considering the question of collection.

Medical News

The Professor White Annual Oration will be delivered by Lord Horder, before the St. John's Hospital Dermatological Society, on Wednesday, June 26th, at 5.30 p.m., at 1, Wimpole Street, W. His subject will be "Pruritus."

The opening ceremony of the London and District Cripples' Training College (Bernhard Baron Memorial), at Leatherhead Court, Leatherhead, will be performed by the Duchess of York on Thursday, June 27th.

The Duke of York, who is president of Dr. Barnardo's Homes, and the Duchess of York have consented to preside over founder's day celebrations at the Barnardo Girls' Model Village, Barkingside, Essex, on Saturday, June 29th, at 2.30 p.m.

The annual meeting of the Incorporated Lancashire and Cheshire Society for the Permanent Care of the Feeble-Minded will be held in the Ivy House Home (near Warford Hall) of the Mary Dendy Homes, Sandlebridge, on Tuesday, June 25th, at 2.30 p.m., under the chairmanship of the Lord Mayor of Manchester. The day school, homes and workshops, Ashby Memorial Hospital, and the farm and gardens will be open for inspection after the meeting.

A meeting of the medical section of the British Psychological Society will be held at the House of the Institute of Psycho-Analysis, 36, Gloucester Place, Portman Square, W.1, on Wednesday, June 26th, at 8.30 p.m., when Dr. W. Clifford M. Scott will read a paper entitled "Some Apparent Disturbances of Reality due to Ideas of Omnipotence—with special reference to Disturbed Ideas about Time."

The annual general meeting of the Medico-Legal Society will be held at 11, Chandos Street, W., on Thursday, June 27th, at 8.15 p.m., and will be followed by an ordinary meeting, at which a joint paper will be read by Mr. Everard Dickson and Dr. Gerald Slot, on "Questions of Drunkenness in the Courts." A discussion will follow.

The annual general meeting of the London Jewish Hospital Medical Society will be held at Woburn House, Upper Woburn Place, W.C., on Thursday, June 27th, at 6.30 p.m., and will be followed by a dinner at 7.30 p.m. and a lecture at 8.30 p.m. by Councillor Dan Frankel, vice-chairman of the Hospitals and Medical Service Committee of the London County Council, on "The Future of the Municipal Medical Services."

The annual meeting of the Fever Hospital Medical Services Group of the Society of Medical Officers of Health will be held at 1, Thornhaugh Street, Russell Square, W.C., on Friday, June 28th, at 4.30 p.m., when a paper entitled "Observations on the Pathogenesis of Diphtherial Paralysis" will be given by Dr. G. Ronaldson.

The first annual general meeting of the British Association of Radiologists will be held at Birmingham on Friday and Saturday, July 12th and 13th. On July 12th, at 10 a.m., there will be a business meeting and the presidential address at the University, Bournbrook, followed by a visit to the new hospital buildings. After luncheon at the university there will be an exhibition of radiograms of bone and joint conditions in the anatomical department of the university, Edmund Street. At 7.30 p.m. the annual dinner of the association will be held at the Queen's Hotel. On July 13th, from 10 a.m. to 1 p.m., in the university anatomy theatre, Edmund Street, the following discussions will be held: "Ante-natal Radiology," to be opened by Dr. R. E. Roberts and Dr. L. A. Rowden; "Methods and Results in Pre-operative and Post-operative Radiation of Breast Cancer," to be opened by Dr. J. H. Douglas Webster; and "Spondylitis Adolescens, its Radiological Diagnosis and Treatment," to be opened by Dr. S. Gilbert Scott. Proposal forms for membership and tickets for the annual dinner may be obtained from the honorary secretary, Dr. S. Cochrane Shanks, 68, Harley Street, W.1.

The fourteenth annual Conference of Cremation Authorities will be held, in conjunction with the annual conference of the National Association of Cemetery and

Crematorium Superintendents, in Folkestone, at the Marine Gardens Pavilion, on July 1st to 4th, and those who are interested will be welcome. A programme has been arranged dealing with subjects of interest to all those concerned with the disposal of the dead, and opportunity will be provided for discussion. Applications for tickets should be made to Mr. E. F. Coward, Fulham Cemetery, Lower Richmond Road, Richmond, Surrey, by June 24th.

The first annual exhibition of works by members of the Medical Art Society will be on view at the House of the Royal Society of Medicine (1, Wimpole Street, W.1) from July 1st to July 12th inclusive. The exhibition will be open from 12 noon each day except Saturday.

The seventh Congress of the International Society of Balneology will be held at San Sebastian from July 26th to 30th. Further information can be obtained from the secretariat, Place du Bon Pasteur 20, San Sebastian.

The twentieth International Congress of Legal Medicine and Social Medicine will be held in Brussels from July 17th to 20th under the presidency of Professor J. Héger-Gilbert. Further information can be obtained from the general secretary, Dr. Maurice de Laert, Rue de Waterloo 115, Brussels.

The seventh International Congress of Accidents and Occupational Diseases will be held at Brussels from July 22nd to 27th, when the following subjects will be discussed: remote results of injuries of the skull, injuries of the hands and fingers, objective manifestations of pain, and lesions due to electricity.

The Fellowship of Medicine (1, Wimpole Street, W.) announces that an intensive course in cardiology will be given at the National Heart Hospital from June 24th to July 5th. A second "refresher" course in medicine, surgery, and the specialties will be given at Prince of Wales's General Hospital from July 1st to 13th. Other courses will be held as follows: proctology at St. Mark's Hospital, July 1st to 6th; urology at All Saints' Hospital, July 8th to 27th; general medicine and surgery at Southend Hospital, July 13th and 14th; dermatology at Blackfriars Skin Hospital, July 15th to 27th. A special demonstration on the fundus oculi will be given by Mr. R. Lindsay Rea on July 2nd, at 8.30 p.m., at West End Hospital for Nervous Diseases. Detailed syllabuses are available from the Fellowship a few weeks before each course is due to begin. A panel of teachers is prepared to give individual instruction in various branches of medicine and surgery daily. With the exception of the cardiology course, the courses and clinics arranged by the Fellowship are open only to members and associates.

The trustees of the Lady Tata Memorial Fund announce that, on the recommendation of the Scientific Advisory Committee, they have made the following awards of scholarships and grants for the academic year 1935-6. These awards were open to suitably qualified persons of any nationality, for research work in diseases of the blood, with special reference to leukaemia. Scholarships: Dr. M. C. G. Israëls (Manchester), Dr. O. Kaalund-Jörgensen (Aarhus). Grants: Professor Dr. W. Büngeler (Danzig), Dr. J. Engelbreth-Holm (Copenhagen), Dr. Phil Karl Hinsberg (Berlin), Dr. Ch. Oberling (Paris), Professor Eugene Opie (New York), Dr. Lucy Wills (London).

In the *Observer* of Sunday last there was a report of an interview with Mr. R. H. P. Orde, honorary secretary of the British Hospitals Association, on the task before the Commission of Inquiry which is to be set up by that body to survey the resources of the voluntary hospitals. Mr. Orde explained that recent legislation and changes in the social habits and wishes of the population had made it desirable to survey the situation. The decision of the voluntary hospitals to set up this inquiry had been spontaneous. They wished to consider how best they could place their resources at the service of the nation as a whole in conjunction with the State. The aim would be to arrive at some agreed policy on questions affecting the general hospital service of the country. The chairman and members of the Commission have yet to be appointed, and the first meeting will probably be in the autumn.

The British Committee on Chronic Rheumatic Diseases appointed by the Royal College of Physicians of London has arranged for the publication of reports intended to form a record of recent work, both clinical and in the laboratory, with the object of co-ordinating the work that is being done and preventing overlapping. Messrs. H. K. Lewis and Co. have undertaken the publication, and the first volume will be issued next week.

The annual report of Guy's Hospital for 1934 stresses the urgent need for additional accommodation for nursing staff made necessary by the increasing demands of medical and surgical nursing, and for the staffing of Nuffield House, the new paying patients' block, for the erection of which Lord Nuffield gave £65,000. The block, which it is hoped to open this autumn, will accommodate seventy-five patients.

The issue of *Le Progrès Médical* for June 8th is devoted to neuropsychiatry, on the occasion of the celebration of the centenary of the birth of Valentin Magnar, the eminent psychiatrist, who was director of the Asile Sainte Anne for forty-five years and for more than thirty years published his clinical lectures in that journal.

The issue of *Surgery, Gynecology and Obstetrics* for May is dedicated to the memory of its late editor, Dr. Franklin H. Martin, who died on March 7th.

The issue of the *Bulletin de l'Académie de Médecine* for May 28th contains a sympathetic obituary notice by Dr. André Mayer of Sir Edward Sharpey-Schafer, who was an honorary foreign member of the academy.

The issue of the *Journal de Médecine de Bordeaux et du Sud-Ouest* for May 30th is devoted to the proceedings of the orthopaedic congress recently held at Bordeaux.

Major-General Ernest Charles Ashton, C.M.G., M.D., who has been appointed chief of the Canadian General Staff, graduated in medicine at Toronto in 1898, and was for fourteen years staff surgeon of the Brantford General Hospital. He was twice mentioned in dispatches during the war.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone, unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs. Authors over-seas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBER** of the British Medical Association and the *British Medical Journal* is EUSTON 2111 (internal exchange, five lines).

The **TELEGRAPHIC ADDRESSES** are
EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediseora Westcent, London.*

The address of the Irish Office of the British Medical Association is 18, Kildare Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

QUERIES AND ANSWERS

Cracked Upper Lip

"G. E. D." writes in answer to "B. G." (April 27th, p. 907): I would ask if his patient leaves his upper denture out at night. If so, my own personal experience may be of use to him. When I first had an upper denture I used

to leave it out all night. I developed a cracked upper lip, which no treatment would cure. As a last resource I kept my denture in at night, and in two or three days the crack healed. I proved this treatment to be effective by leaving the denture out at night on several occasions, and the crack always recurred, to be always cured by retaining my denture at night. In my opinion this acted by keeping the crack on the stretch slightly, and it healed up from the bottom.

Vulvo-vaginitis in a Child

Dr. E. M. VOIGT writes in reply to "Z. Y. X." (June 15th, p. 1249), who asked for suggestions for cure of a case of vulvo-vaginitis in a child of 5: May I suggest to him that in the articles of C. C. Norris and F. B. Block, in the *American Journal of the Medical Sciences*, October, 1934, vol. clxxxviii, No. 4, p. 581, and of Nabarro and Signy, in the *Lancet* of March 16th, 1935, he will find, I think, the help he requires.

Malaise after Motoring

Dr. C. R. G. BARRINGTON (Hayes, Kent) writes in reply to Dr. Arthur Hawkward, whose query appeared on June 1st: May I suggest that he tries one allonal tablet with 1/100 grain of atropine sulphate, preferably in a cachet. I have found this to work very well, and with less allonal it is very useful for children who get train-sick or car-sick.

Income Tax

Income from Abroad

"W. B. P." has an income of about £400 per annum from New Zealand stocks, equivalent at present currency rates to about £300. He returned from New Zealand a year ago, and has since drawn £118 from there. Is he liable to pay United Kingdom tax on the undrawn income?

*** The answer is "Yes," unless "W. B. P." is not domiciled in the United Kingdom or, being a British subject, is not ordinarily resident in the United Kingdom" (Rule 3, Case V, Schedule D). Domicile and residence are technical questions of considerable intricacy, and "W. B. P." might find it best to discuss the facts with his local inspector of taxes. If he cannot claim to be assessed on the remittance basis he should see that he is given the advantage (*a*) of Dominion income tax relief, and (*b*) of having the amount of the income arising in New Zealand calculated according to the rate of exchange ruling at the time when the dividends were credited to his account in New Zealand.

The Cash Basis

"CASH BASIS" explains that his firm has for the last ten years been assessed on the earnings basis as shown by the firm's accounts. Can a change over to the cash basis be arranged?

*** It is unlikely that the Revenue would consent, and as the earnings basis is strictly correct our correspondent has no legal means of enforcing a request for a change. The cash basis is conceded to avoid the difficulty (of valuing debts) which the earnings basis often entails, and as the firm in question has apparently been able to surmount those difficulties in the past the Revenue authorities have reasonable grounds on the facts for refusing to depart from the present basis.

LETTERS, NOTES, ETC.

Unusual Injuries

Mr. G. R. GIRDLESTONE, F.R.C.S. (Headington, Oxford), writes: I was interested to see in your issue of June 1st an account of the removal of a motor-door handle from a boy's chest. Curiously enough, only the other day I was asked to see a woman at Savernake Hospital, Marlborough, who had been struck by a passing motor car on Jubilee Day. She was taken to her doctor with a compound fracture at the lower end of the right humerus. He set the fracture and applied a dressing to the small wound, which was directly behind the lower end of the humerus, and healed per primam. A week or two later the doctor noticed what appeared to be a bony prominence in front of the elbow, and brought her up to see me. What felt like a partially detached fragment of bone was present on the inner side of the antecubital fossa. It was unaffected by the action of the flexor group of the forearm. When I cut through the skin a horribly black substance presented! To my relief it proved to be half a door-handle from the car. It was perfectly clean, and lying free without any surrounding infiltration. It had passed between the upper and lower fragments of the humerus, which must have closed after its passage like the snapping together of the jaws.

Paratyphoid with Abrupt Onset

Dr. H. A. SALLAM (director of the Luxor Laboratories, Egypt) writes: It is generally known that fevers of the typhoid and paratyphoid groups always start very insidiously. The following case began rather suddenly, and is worthy of record. A medical friend of mine came to me suffering from a slight headache, with a night temperature of 37.5° C. I made a blood test, and was astonished to get a pure culture of paratyphoid B. I immediately reported to him, but he would not believe it. Three days later he was seized while at work with a very severe rigor, which would have been taken as malarial rigor by anyone who saw him. It continued for four hours, and the fever went on its usual course for three weeks. I have been told by some of the doctors that this method of onset seems to be a common occurrence in paratyphoid B infections here.

A Theory about Cramp

Dr. MARGARET VIVIAN (Bournemouth) writes: A theory that I have evolved regarding a frequent cause of cramp may be of interest to those of your readers who suffer from this troublesome complaint. I have conclusively proved that in my own case cramp is due solely to an overdose of sugar. Ever since I started the reprehensible habit of eating sweets before going to bed I have been regularly roused from sleep by more or less severe attacks of cramp of the leg muscles. I did not associate these attacks with the consumption of sugar until I noticed that when my supply of sweets had run out no attack of cramp disturbed my night's rest. I have tested my theory by eating sweets on alternate nights, with the invariable result that an attack of cramp followed on the nights when I had taken the sweets and no cramp on the nights when I had abstained. Is not this a possible explanation of the annoying and sometimes dangerous attacks of cramp that harass lawn tennis players, swimmers, and jockeys at critical moments? Pain has been defined as the cry of the tissues for pure blood, and it seems probable that cramp is the protest of the muscles against an overdose of sugar.

Strabismus: Priority in Orthoptic Treatment

"R. C. B." writes with reference to the review published on June 8th (p. 1171) under the heading "French Views on Squint": It is worthy of note that to *La Comare* of Scipio Mercurio, Verona, 1652, is added a Discorso on "Il Colostro" by Pietro di Castro, Medico fisico Avinionese, where on page 30, relative to squint, it is said: "e la balia debitamente & poi per leuare quel brutto difetto degl' occhi si faccia questo istromento" ("the nurse duly to remove this gross defect of the eye makes this instrument"). The instrument figured is a blinkers with a perforation near the outer end of the left eye cover. As there were editions prior that of 1652, the date may be prior to this.

Memorial to Dr. Drummond Fergusson

Miss ETHEL D. TURNER, acting secretary of the memorial fund, writes: A fund has been raised to the memory of Dr. Drummond James Fergusson of Richmond. The fund, which has now reached £1,016 8s. 6d., is to be invested, and the income used for the purpose of assisting nurses who are past work or in reduced circumstances—this meeting a very real need, and helping an object which would have been dear to his heart. If those who have known Dr. Fergusson would like to subscribe to the fund would they send their subscription to the "Drummond Fergusson Memorial Fund," Barclay's Bank, 7, George Street, Richmond, Surrey.

Burroughs Wellcome and Co. announce that all "Wellcome" brand insulin is now made with pure crystalline insulin.

The Denver Chemical Manufacturing Company have removed to new and larger premises in Carlisle Road, London, N.W.9.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 43, 44, 45, 46, 47, 50, and 51 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 48 and 49.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 300.